# Marine Review

*The National Publication Covering the Business of Transportation by Water*

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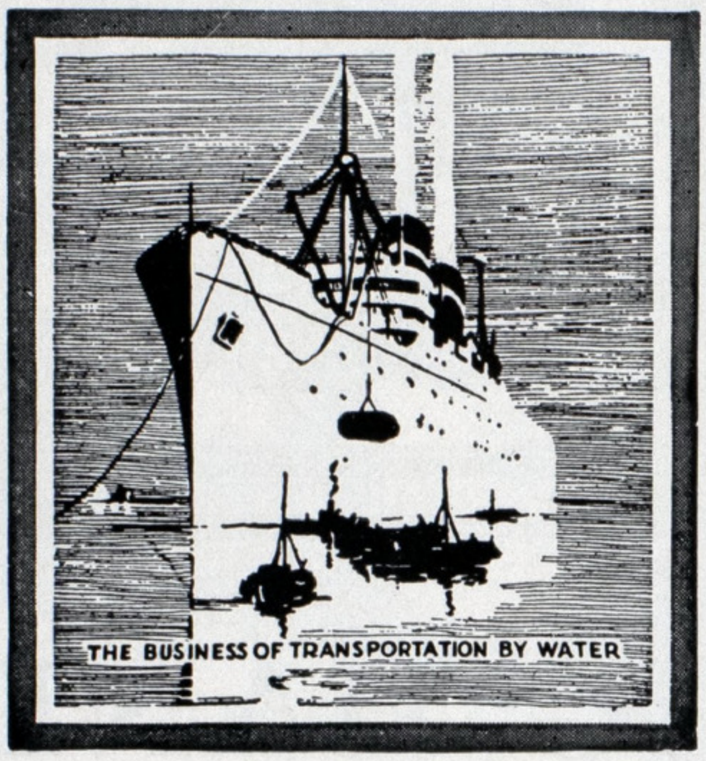



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# « EDITORIAL »

## Meeting Foreign Attacks on Our Merchant Marine

IT IS not the two-thirds of our merchant marine which is not now "fit for trade," as Walter Runciman, president of the British board of trade, is reported to have characterized it in an address before the chamber of shipping in London on Feb. 16, that is worrying our British friends. It is rather the high quality and efficiency of the remaining third, and particularly the ships built and reconditioned under the terms of the merchant marine act of 1928, which is the real objective of the numerous attacks from abroad.

Mr. Runciman's remarks are helpful rather than otherwise in calling attention to the urgency of concerted action in replacing this "unfit" two-thirds of our marine with modern and efficient ships. What plan of action can be undertaken to accomplish this purpose?

In the first place, the American people are determined to have a merchant marine adequate for its commercial and defense needs. The policy to this end laid down in the merchant marine act of 1928 has been amply justified by results. Every new ship that has come out has done well. No interruption in this policy must be permitted; instead it should be strengthened and wisely extended to include encouragement to the cargo carrier.

A statement recently issued by the national committee on the merchant marine pointed out that certain proposals now pending in the congress, if not properly considered, may very easily destroy the entire American merchant marine engaged in foreign trade, with a resultant loss of many millions of dollars a year to American industry, agriculture and labor. The statement in part follows:

"The present American merchant fleet has been developed under definite laws of congress, one of which is an act authorizing the postmaster general to make ocean mail contracts with essential steamship lines as a government aid to the establishment and maintenance of such lines. Forty-four mail contracts for ten-year periods have been made since 1928, when the act was passed. They constitute the very foundation upon which the American overseas merchant marine exists. They were entered into as legal, binding contracts, ordered by congress after a most careful, thorough going and painstaking investigation of every fact and phase of the question.

"Under these contracts private shipowners have brought the American merchant fleet in foreign trade into splendid position, although no ship company is making any real profit at this time. Nearly 600 American flag ships now operate on 70 regular lines in foreign trade, as against only 17 in 1914. Forty-one new vessels have been constructed since 1928 to modernize the American fleet and give it the power to compete successfully with foreign lines. Our merchant marine operating in the foreign trade is capturing for American industry several hundred million dollars every year out of an ocean freight bill of five hundred million paid by American exporters and importers. Every dollar of that two hundred million goes back into the pockets of American citizens who contribute in labor or supply to the operation of the necessary ships.

. . ."Millions of dollars have been expanded for ship construction in America since 1928, and the near future will see an expenditure of two hundred million for the same purpose. Shipping lines have invested millions of dollars of private capital to build up these ocean services—all on the guarantee that the government aid provided by congress in 1928 through mail contracts should be continued.

"The postmaster general has compiled with the orders of congress, the companies are receiving the aid, and, as a consequence, they are doing what congress intended them to do, building up the lines to carry a reasonable proportion of American commerce with ships suitable and available to our army and navy as national defense units.

"To consider this aid from the point of view that it is a payment for carriage of mail is unfair. . ."

Such in part is the statement made by this committee. The American people will not permit the reversal of this sound policy.

# The Naval Architect and the Merchant Marine

By J. Howland Gardner*

THE world industrial depression has not prevented maritime nations other than our own to provide for their commercial future on the seas. Not only did their rehabilitation program of ships of all classes begin long before 1928, when the first constructive measures were undertaken in this country as the result of the Jones-White act, but it has extended through the years of depleted industry. Today, in spite of our start since 1928, we face the future with a merchant marine nearly 90 per cent obsolete, with only 1,000,000 tons of modern ships.

Germany has rebuilt her merchant marine. Today she stands in a position of commercial independence on the high seas with a merchant fleet featuring the superliners BREMEN and EUROPA. England has prosecuted an unceasing program of rehabilitation and she too faces international trade revival with confidence in her ability again to assume a prominent position on the world trade routes. The new 75,000-ton Cunard liner under construction will be the flagship of the British fleet. Italy and France have become ship-minded, both having or will soon have their contenders for blue ribbon honors in the North Atlantic. Italy with the REX and CONTE DI SAVOIA and France with the greatest superliner yet to be undertaken, the NORMANDIE. These are but the high spots in a general realization abroad of the importance of prestige and ability to meet commercial demands with modern ships.

### Construction Since 1922

The picture of the obsolescence of the American fleet in relation to those of other nations may easily be summarized and tell the sad story.

On July 1, 1932, only 9.6 per cent of our merchant fleet in ships of 2000 gross tons and over had been built since Jan. 1, 1922. In comparison with the fleets of other maritime nations during this same period, 56.3 per cent of Norway's fleet is new; Germany's fleet consists of 55.9 per cent modern vessels; Great Britain, 50.9 per cent; Holland, 50.2 per cent; Sweden, 50.1 per cent; Denmark, 47.8 per cent; France 37.1 per cent; Italy, 28.6 per cent; and Japan, 23 per cent. Evidently the peoples of these nations are not unaware of the part which an economical modern merchant fleet plays in their welfare. In contrast to this attitude, the vast majority of the American people have little understanding of the bearing that independence on the seas has to their everyday affairs. There is every reason to hope that industrial rehabilitation will not be long delayed. Preparation through the development of a definite program of marine activity and education of the public at large as to its importance are absolutely essential in the solution of the industrial problem as a whole. Our membership subscribes fully to the definite policy declared by congress:

1. That a merchant marine of the best equipped and most suitable types of vessels is necessary

(a) For our national defense as a naval or military auxiliary in time of war or national emergency, and

(b) For the proper growth of our foreign and domestic commerce and further, that in performing these functions there are other essential considerations, as follows:

2. That an American merchant marine is essential for the protection of our foreign trade in times of international emergency in which the United States may or may not be involved, but at which time foreign vessels that may have been engaged in our trade are withdrawn for other purposes.

**J. Howland Gardner**
*President, Society of Naval Architects and Marine Engineers*

3. That the shipbuilding industry is the basis of our merchant marine and that it is a national asset not only for the construction of merchant vessels but also for the building and repair of both government and commercial vessels in time of emergency.

4. That shipbuilding, because of its highly specialized character, requiring in its operations both the highest grade technical and mechanical skill must of necessity be kept in operation at all times if it is to be available as a national asset in a time of emergency.

5. That the shipbuilding industry of itself is an important industry to the country. It furnishes employment to labor not only in the shipyards but to all of those industries throughout the United States that furnish the materials and equipment used in shipbuilding. About 80 per cent of a ship's total cost is expended for labor.

Unless a definite and organized program of ship construction is formulated that will carry on from the excellent nucleus established by the merchant marine act of 1928, what has so far been gained will be lost and the reiterated merchant marine policies of this government will have been futile. Again we will be in the position of depending upon foreign-flag ships to carry the preponderance of our goods.

The Society of Naval Architects and Marine Engineers is composed of naval officers, naval architects, marine engineers, shipbuilders, shipowners, ship operators and those interested in the production of marine equipment. It has been in existence for over 40 years and during all of this period has devoted its time and its energies to the development of the art and science of shipbuilding, both naval and commercial, in the United States. Its members are responsible for the design of naval and merchant vessels, together with their propelling machinery and auxiliaries. Upon them rests the responsibility for seeing that United States vessels of whatever type and for whatever service are at least equal in every respect to those that can be produced anywhere in the world.

Representing as it does the greater number of those groups interested in American shipping the society has felt for some time that it is incumbent upon it to make a study of the facts in relation to American ships both from the standpoint of trade and of national defense to compile these facts both from a general and technical standpoint for American ships and for foreign ships in competitive services.

It must be understood that the society will limit its activities to the development of facts, assembling them in simple form and logical sequence. It is true that most of these facts have been developed, but not all. It is equally true that so far as

(*Continued on Page* 36)

*Address by J. Howland Gardner, president of the Society of Naval Architects and Marine Engineers, delivered before the Sixth National Conference on the Merchant Marine at Washington, Jan. 4, 1933.

# Sixth Merchant Marine Conference

## Declares for a Vigorous Shipping Policy*

SENATOR COPELAND referred to the imperative necessity of harmonious co-operation among all groups of the shipping industry. He said, "The time has come when the shipping industry must subordinate every difference and stand shoulder to shoulder. United effort is essential to preservation." He called attention to the active encouragement other nations are giving their shipping and mentioned specifically the Ottawa conference, the reduction in overaged tonnage, financial support by the British German, French, Italian, Japanese, Dutch, Spanish and Greek governments.

From all this it is apparent, the senator said, that European maritime nations, undismayed by world conditions appear to believe that this is no time to abandon the merchant marine and they continue to support their shipping industry in spite of international debts and many other obstacles to economic recovery. By the same token, he said, "No fetish of false economy must be permitted to interfere with this essential factor in our own national welfare and development," and "the merchant marine must be preserved no matter what surgery is applied elsewhere. Unless with full approval of those who apply the funds, no violent effort at curtailment is justified."

To Great Britain the senator paid his respects, in part, as follows:

'The recent wail from London about subsidies paid to American shipping is little less than hypocritical. Indeed it is laughable to have a Britisher find fault with ship subsidies. If anybody in the world has been generously treated it is the English shipowner. Every informed person knows how far Great Britain has gone in support of her merchant marine. It was not until our country used similar methods that any considerable portion of our own commerce was carried in American bottoms.

"It would be thrillingly welcome to British shipping interests for them to learn that the United States has cast adrift our developing fleets. As the British tiger consumed our abandoned commerce, there would be a broad smile on the face of the eiger. But so long as the Jones-White act remains intact, that smile will continue to be hidden behind the snarl caused by the unwillingness of Sir Alan Anderson to compete in a fair field.

"Has the prolonged economic pressure caused such a weakening of the old-fashioned British character that our cousins across the sea have become hysterical? To say the least, it does not harmonize with their traditional sportsmanship to find that the cards are being stacked against the United States. Let me place the facts before you and see if they give evidence of an attempt to stack the deck.

**British Chamber of Shipping**

"The British chamber of shipping has just adopted a report on the merchant marine policy. This has been, or will be, reported to the government for its use during the forthcoming World economic conference. I wish time permitted the reading of the full report, but I want the audience to listen to the ninth recommendation. It reads as follows:

"Viewing the position as a whole, we recommend that both pending the conference and at the conference itself, Great Britain should endeavor to secure the cooperation of as many nations as possible pledged to and for the re-establishment of world trade through the removal of trade barriers, including the modification of tariffs upon the goods carried and the removal of all forms of discrimination (including subsidies) in favor of ships under the national flag by which goods are carried. We further recommend that Great Britain and those cooperating nations should join to confine the most favored nation treatment to each other's trade and shipping."

"Talk about secret diplomacy. What is the purpose of the World economic conference, if one is to be held? Is it not to be a forum for free, frank and unprejudiced discussion of the world conditions? Or is it to be a place where Uncle Sam will lose his shirt because of such agreements made in advance?

The eighth recommendation of this report speaks of the "methods of reservations, restrictions and discriminations, as regards shipping, that are, or could be made, available to this country (England), if it be forced**** to take retaliatory steps in defense of its own shipping."

"But England does not wish to retaliate. She proposes to set up the pins in advance and gain her point before we have a chance to confer with anybody.

"She complains about discrimination which 'taken the form of building or operating subsidies.' This has a strange sound when one considers that it comes from a nation that has aided its shipping for five hundred years, since the fourteenth century, indeed, and Dr. Walsh, says in the tenth century they conferred peerages for three voyages of any sort.

"Let me call to your attention that under the British trade facilities acts, about one third of the guarantee given to industry by England went to shipbuilding loans. From 1921 through 1926, this amounted to $114,000,000.

"In 1922 the government of Northern Ireland made available for ship construction about $53,000,000. Added to the English contribution, this makes, at par, about $167,000,000 in our money. The amount loaned from the United States shipping board construction fund is about $136,000,000. Poor little Great Britain now complaining so bitterly, has almost within a dozen years advanced $30,000,000 more for shipbuilding than the terrible old United States.

"A British shipping journal defended their construction program, saying:

"As a matter of fact, these ships were built for service on routes which would otherwise have been developed by the United States shipping board, and, therefore, their construction promoted British interests, directly and indirectly. It may be added that the bulk of the tonnage built under the trade facilities acts was specialized tonnage of the highest class whose existence today, more especially in the South American service, keeps the British flag in a leading position on trade routes on which the American, the Germans and the Italians have made a serious bid for supremacy. What would have been the position today on these routes if these British ships had not been built? Inevitably foreign vessels would be getting the business and several thousand of British merchant officers and men would be idle."

**A Fair Chance to Compete**

"If I understand it, the American shipping interests are asking no

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*This article is a continuation of the report on the sixth national conference on the merchant marine held in Washington, Jan. 4 and 5. The first article appeared in the February issue and included a full summary of the resolutions adopted as well as the opening address by Chairman T. V. O'Connor of the United States shipping board; also abstracts of several other addresses.

special favor. They are not demanding more than English, French, Dutch and Italian shipowners enjoy. As a matter of fact they are getting much less. All they seek is a fair chance to compete in the race for maritime supremacy.

"Let no American forget that while England and her European allies were begging us for "ships, ships and more ships," she had no complaint to make of our appropriations for their building. We poured hundreds of millions of the taxpayers' money into our shipyards. That is when we spent the vast sum of which Sir Alan Anderson complains. It was that great enterprise on our part that had much to do with winning the war. It comes with poor grace for any Britisher to throw bricks now at a policy determined upon when all the Western European world was begging for this particular form of assistance. Neither can we be blamed if we use what is left of these expensive ships to give us some small return for the flood of gold they cost.

"The thing that hurts our critic is that our adoption of English methods has made the United States a factor in world trade. In 1913 we had so small a part in international seaborne carrying trade that our tonnage was only 2 per cent of the world total. Indeep, we stood eighth in the list. Now we have reached second place, with 12 per cent of the world total tonnage. Where, before the war, our own ships carried a very small part of our own commerce, now, I am proud to say, in American bottoms 34 per cent of American commerce is carried. We shall not be satisfied until at least one-half our goods are transported in our own ships.

"I am confident no American statesman will be moved by British critics to abandon the wise policy that has met such great success in so short a time. By persisting in our course, American agriculture, labor and industry will reap rich rewards from our increasing commerce. The mail subventions are an essential part of this program.

### Construction Loan Funds

"I cannot end my remarks without saying a word about the construction loan fund. That is a subject of importance to this conference. The Congress has been most generous in its treatment of agriculture, the railroads and banks. It has provided for human relief and aided the states. The federal farm board, joint stock banks, federal land banks, Reconstruction Finance Corp. and other governmental agencies have found it necessary to compromise claims. Adjustments have been made and will have to be made. Our lawmakers recognize that in the face of continuing economic distress, concessions are absolutely necessary.

"The same course will need to be followed in the matter of construction loans. If legislation is required, it should be formulated. I am confident that the shipping board, ever alert to the highest welfare of the merchant marine will point out avenues of relief. There must be no foreclosure or bankruptcies. We must not encourage our competitors by any disastrous performances.

"With money as cheap as it is, and all the loans being self-liquidating, no new hazards will be created by generous extensions and readjustments. The only point in mentioning the matter, is to let it be known that we anticipate such action. When the shipping board moves, we are prepared to endorse its decisions. That, as I view it, is the natural and proper view to take in an unexpected economic crisis."

### Merchant Marine Act of 1928

W H. WHITE JR., United States senator from Maine, in his speech referred to incidents in connection with formulating the merchant marine act of 1928, popularly known as the Jones-White law and of which he was joint sponsor. With reference to the continued support of this legislation, he said in part: "We face now a momentous time, a momentous decision, with respect to the American merchant marine. The American people must determine whether we are to go forward, maintaining, upholding, expanding the American merchant marine, extending our trade and our influence throughout the world, or whether we are to slip back into that slough in which we were for long years before the war and at the time of the great World war.

"We saw at that time, with no American ships, freight rates mount up and up. The rate on cotton jumped 35 cents for 100 pounds to $11 per 100 pounds; while wheat went from 8 cents per bushel to $1.36 a bushel; on flour from 10 cents for 100 pounds to $1 per 100 pounds, and the general freight level rose ten times or over. And in that period and the period following the war, the American farmer and the American business man paid in tribute annually millions to foreign ships and to foreign lands, paid in humiliation because we had not met the emergency, the necessities, the obligations of American citizenship."

### The Post Office Department

W I. GLOVER, second assistant postmaster, spoke on the post office department and the merchant marine. He said in part:

"I believe it can be truthfully said that the true friends of the merchant marine act have been astounded at the attacks which have been made against it during the past twelve months and even prior thereto by some of its erstwhile friends, professed friends, and its enemies. And many times the attacks made on the merchant marine policy of our government have contained so many untruthful statements and have been told in so many different ways and from so mauy different sources that I regret to say some of the statements have fallen upon fertile ground for the propagation of falsehoods and have blossomed forth and spread much poison from these "plants of attack."

The Ocean mail contracts are made primarily to insure the operation of regular services on satisfactory schedules over specific routes which are considered essential outlets for American trade, and to meet foreign competition differentials are offered to offset the higher cost of building ships in foreign yards and also a differential on the cost of operation of said ships after they are completed and brought into service.

"And, furthermore, if you will, neither would our country have adequate naval auxiliaries and naval reserve ships—these ships which would be of incalculable value in a national emergency."

### Shipping and Manufacturers

JAMES E. EMERY, general counsel, National Association of Manufacturers spoke on the *Relation of Shipping to Manufacturers.* He said in part.

"An Amercian merchant marine, American built, owned, manned and operated, is essential to the foreign trade of the American manufacturer. It is the tool of prosperity in peace, the weapon of defense in war. It carries American goods, the stamp of American quality, the spirit of American goodwill, over the Seven seas. its renaissance assures a secure investment for American capital and an expanding field of employment for American labor. It deserves the support and not the competition of its government. To have it, we must once again be sea-minded. Our eyes, like our forefathers', must turn to the possibilities of sea-borne commerce. They must envisage the American flag once again in every port, American goods circulating throughout the world and successfully competing in friendly rivalry with every nation. To secure that ideal, we must will it. For the National Association of Manufacturers, I pledge you its members will speak for American-built, owned, manned and operated ships, and say it with cargoes."

### Railroads and Merchant Marine

WLLARD F. PLACE, assistant vice president, New York Central lines addressed the conference on

*Railroads and the Merchant Marine.* He said in part.

"Naturally, the railroad are vitally concerned in the matter of a merchant marine in the carriage of our foreign trade; first, because it is an American institution; second, because of the direct bearing it has upon the commerce and general welfare of our country.

"You who have been engaged with the affairs of the merchant marine deserve to be congratulated upon what has been accomplished. When I hear that the American merchant marine with American vessels is today carrying 35 per cent of our total foreign commerce as against less than 10 per cent before the war, and with a plain and definite policy already firmly established by the congress of the United States involving a plan of government assistance and support to private initiative, it would seem that there is not much more to be desired beyond seeing to it that there is a fair and wise administration of this policy in the future which will conform to the real intent of congress and the desires of our people, and one which will permit of retaining in full measure what already has been accomplished.

"The establishment in recent years of fifty odd world trade routes from the ports of the Atlantic, Gulf and Pacific to all the leading ports of the world, and the placing of these services in private hands on a sound basis is a real achievement. Their future development will require the co-operation and support of all branches of industry concerned. Perhaps mutual understanding and working arrangements can be entered into with foreign flag lies which will materially stabilize transportation, and this upon a base of live and let live so necessary to business and particularly to business international in scope."

The address of J. Howland Gardner, president, Society of Naval Architects and Marine Engineers is published in full, page 10, this issue.

A W. ROBERTSON, chairman of the board, Westinghouse Electric & Mfg. Co. addressed the conference on *Industrial Rehabilitation and the Merchant Marine.* He said in part:

"It is my belief that this conference would do well to establish ways and means to rekindle a national consciousness on behalf of American shipping.

"Basic economic fundamentals (a nation's geographical location, its natural resources, the productivity of its labor, its industrial and agricultural development and its economic statesmanship) rather than its political influence are the determining factors today as to a nation's shipping requirements. We should build ships because we must have ships and because we as a nation have proven we can build everything we need as well if not better than the rest of the world.

### The Necessity of Ships

"One commonsense reason why we must have our own ships is because we have goods to sell and deliver to the world. What modern-minded merchant would permit his competitors across the street to deliver his goods to his customer? We should make our own deliveries in our own ships.

"I feel it a presumption for me to detail the needs of the shipping industry to you, but it seems to be the consensus of opinion that we need more new ships and the rehabilitation of these we now have. To do this means that we must have both governmental and private support. In order to gain that support we must so inform the people of this country as to engage their interest and give them a thorough understanding of the important part which this industry plays in our industrial life. Such a plan would necessarily entail some expense and a great deal of effort. A recent analysis shows that almost every profession and trade and nearly every state in the union contribute directly to the building of a ship; while the indirect contributions—from the farmer who grows the food for the workers to the physician who safeguards their health—form a group that represents the entire nation.

"If the needs of your industry are to be met, there will be an extensive job of rehabilitation. Your position in this respect is similar to most of the other industries..

"Some of you may ask—Why should I modernize? It is a natural question and I only give you the same answer we gave to other business men—

"(1). To reduce costs;

"(2). To improve your competitive position;

"(3). To provide for greater operating efficiency when increased business develops.

"Equipment can be purchased and installed today at a cost below normal; improvements in equipment and overhaul can be made now while shipyard plants are not busy; and recent improvements in equipment design offers unusual opportunities for cost reduction.

"Every seagoing ship built in an American yard gives employment to a large sumber of Americans—ranging from 700 for a year in the case of a moderate-sized cargo vessel to 2200 for three years in the case of an express liner. About half of these are employed in the shipyard; the remainder are engaged in making and transporting the large variety of necessary materials and supplies and in providing the needed power. In a similar manner the rehabilitation of our present ships would give employment to a proportionate number of people.

FRED I. KENT, vice president of the Bankers Trust Co., New York, spoke on *International Trade and Shipping.* Calling attention to the fact that the amount of shipping required in the world is determined by the amount of international trade, he suggested that the shipping industry, if it hopes to see a restoration of its business on a sound basis, must do its part toward bringing this result about. In speaking of the great forces which have curtailed international trade, he summed them up as follows:

1. Excessive taxation.
2. Allied debts.
3. Depreciated currency.
4. Trade barriers.

He deprecated "buy at home slogans, whether "buy American" or "buy British" or any other similar slogan aiming to center the minds of purchasers exclusively upon home made goods, as unfortunate for the world and as adding to its difficulties.

In referring to causes of trade barriers and the necessity of wise action to remove them, Mr. Kent said in part: "Attempts by governments to help the unemployed by paying them for doing nothing instead of developing the means to enable them to work has resulted in excessive taxation, depreciated currencies, unbalanced foreign trade evidenced by maldistribution of gold—often treated as a cause although in reality an effect—and great internal unrest which has fostered international resentments.

"Hoping to correct the evil effects of this policy, governments then begin to raise trade barriers against each other, which the terms of the various treaties following the armistice greatly encouraged. Every successful barrier that was raised brought forth new ones in other countries to counteract it until the nations were lead through a long maze of tariffs, import prohibitions, quotas, unwise borrowing and foreign exchange restrictions, that altogether are acting to kill world trade upon which all people depend to such an important extent for their comfort in living.

"Many leaders of the European nations are beginning to see the necessity for a change from policies of retaliation to those of cooperation. . . .

"It is doubtful, however, whether we in the United States have progressed as far in our understanding of this necessity. . . .

"We cannot hope for better conditions until our mental attitudes

turn from those of destruction to those of construction. When that time comes we can hope for immediate upturn in the affairs of the whole world as other nations are about ready to meet us half way."

THE next speaker N. O. Pedrick, general manager, Mississippi Shipping Co. called attention specifically to the valuable aid rendered the steamship business by section 15 of the shipping act of 1916 on the regulation of water carriers.

In concluding he said in part:

"There is, I believe, a misconception on the part of some friends of our merchant marine as to the part American steamship owners should play in bringing about low ocean freight rates. If the idea, that we constantly are or should be trying to get the foreign lines in our conferences to agree to low rates, is exploited too much it can do us harm. . . . Rates should not be so low that the carrier cannot give good service, maintain his ships in good condition, and set up a reserve for replacement.

"Of more value to American shippers than the measure of the rate is the assurance that they and American shipowners have a common interest in developing foreign markets for American goods; that dependable service will continue when emergencies cause the withdrawal from the trade of foreign flag vessels; and that the prosperity of the American shipping industry means added profit to an almost limitless number of other American industries."

BEGINNING the morning session Jan. 5, Commissioner S. S. Sandberg, vice chairman of the United States shipping board, addressed the conference on the regulation of water carriers. He pointed out that as the board gradually retired from the operating field, the regulatory functions have been increasingly exercised; and that ports, shippers and shippers' organizations are now utilizing the regulatory functions of the board to such an extent that as of the immediate future it may be said that the board is primarily engaged with regulation. At first, Commissioner Sandberg said, there was a tendency to dispute the jurisdiction of the board. This was particularly true in the case of carriers in foreign commerce not under the American flag. He cited an instance in the case of the French line in which the board's action was supported in the federal district courts and finally in the Supreme Court of the United States. This decision made it clear that the board's authority is just as applicable to foreign flag carriers engaged in commerce of the United States as it is to American flag carriers and further, that it is immaterial in this respect whether the contracts of affreightment out of which the controversies arise are made in a foreign country or in the United States.

The commissioner pointed out that the primacy of the board as a tribunal, for the determination of questions of fact in reference to unjust discriminations and undue prejudice in connection with rates and practices prohibited by the shipping act, is now firmly established. The most important regulatory functions of the board touching intimate intercarrier relationships is that in connection with conference agreements specified by section 15 of the shipping act of 1916. By approval of the board in these instances the carriers who are parties to the agreement are relieved from any possible attack for violation of the Sherman or other anti-trust laws. He concluded his remarks by referring to the value of this regulatory law in stabilizing rates and commercial conditions for the benefit both of shippers and carriers.

CHARLES FRANCIS ADAMS, secretary of the navy, spoke briefly to the conference as follows:

"For a little brief period I can call you brothers, for the navy and the merchant marine are brothers, each dependent on the other. We are here to do what we can to help you. We recognize that you are essential to us if our period of stress ever comes. We know you will help; we know that we can work together. We deeply recognize our duty to you to help the merchant marine of this country in every way that God permits us and we are always here for that purpose."

THE next speaker on the program was Congressman Will R. Wood who spoke on government transport competition. He outlined how the transport service of the army came to be organized pointing out that the condition existing at that time no longer prevail and that there is no reason now why the government should continue competing with private steamship companies in having its own transport service. The United States he said, is the only country in the world that has such a service. All the other maritime powers transport their armies and supplies in merchant vessels privately owned and we should go back to the same practice. He pointed out that there are now 15 vessels owned and operated by the government in the transport service. It is an expensive luxury and a source of unnecessary competition for our merchant marine to maintain these special services contended Mr. Wood.

The vessels in this category engaged in the Panama canal service are, in the opinion of Mr. Wood, the greatest offenders. This line engaged in private business to a certain extent with ships operating through the Panama casal. Then began an expansion of this business to take in not only Panama and through the canal but to ports of South American countries. These activities were finally terminated by the secretary of war because of widespread protest. If the operation of these ships be considered on the same basis as private operation these government transport ships have lost $32,000,000 in the last 15 years. Mr. Wood said that it is up to those that are immediately interested in the merchant marine to see that these things are corrected.

### Letter from General Pershing

MAJOR D. D. EISENHOWER, U.S.A. read a statement addresed to the conference by General John J. Pershing. The general's statement in part follows:

"The knowledge of the woeful lack of American shipping for the transportation of our armies abroad in 1917 and 1918 should make an indellible impression upon the mind of every American and drive him to the conclusion that we must provide an adequate merchant marine under our own flag. Our bitter experience during those crucial years of the nation's history should never be forgotten, and I pray that the American people will never again permit themselves to be placed in such a position with its vast and extremely dangerous possibilities.

"Two lessons stand out clearly from that experience. The first is the wisdom of the historic national policy of Great Britain in maintaining a strong merchant marine. But for her merchant marine and her ability to replace losses rapidly, the U-boat campaign might well have been successful. The other lesson is the unwisdom of America and our risk of defeat because we had practically no ships on the high seas when we entered the war.

"Fortunately, those two lessons have not been entirely overlooked by our people. Congress has definitely committed our government to the policy of having an adequate merchant fleet under our own flag. . . . Already a beginning has been made. We have 600 ships of American registry under private ownership touching at all the important ports of the world. . . . The advantage of carrying our own goods to foreign markets in American bottoms can scarcely be over-estimated. It not only provides cheaper ocean rates but it helps to build up at the same time an important American industry. And this is not all. Every vessel floating the American flag is not only of possible use as a military transport,

but each such vessel adds just so much to the strength of our national defense system as an auxiliary to our navy. By all means let us continue the fixed policy of building up a strong merchant marine." The general's statement was received with great applause.

CAPT. S. W. BRYANT U.S.N. addressed the conference on the United States navy and the merchant marine. Captain Bryant said in part:

"The merchant marine as I see it is a builder of national prosperity. One of the vital functions of the navy is to guarantee that the merchant marine may continue to build for that prosperity. From an economic viewpoint, a well established and efficient merchant marine will earn many times the amount required for the maintenance of a navy, as history bears witness. Temporary financial sacrifices that may have to be made to put our merchant marine on a firmly established operating basis and keep it there, will be justified by the resulting prosperity, prestige and security acquired by the nation.

"The facts are that—

"The navy and the merchant marine are inter-dependent and complementary in accomplishing the purpose for which they exist.

"In the major wars in which this nation has engaged and in which we possessed a large merchant marine but not an adequate navy, we have lost most if not all of our ocean carriers and the trade that goes with them.

"In two of our major wars, the possession of an efficient merchant marine served largely to avert national disaster.

"We are no longer a purely continental nation; our commerce has been extended to all parts of the world and it is not probable that we shall chose to discontinue that commerce.

"During the life of our nation we have seen the varied success achieved during various periods in building for prosperity and security both as regards our merchant marine and navy; and as these two basic elements of maritime power are vital to the continued well-being of our race, it behooves us to face the facts and build substantially and wisely for the future."

THE next speaker, J. Caldwell Jenkins, vice president of the Black Diamond Steamship Corp., spoke on the subject of "*Shipping Legislation.*" Mr. Jenkins quoted the recommendations presented by the United States shipping board to the congress in its last annual report, in part as follows:

1. Legislation should be enacted providing for the award of ocean mail contracts to purchasers of shipping board services, substantially along the lines of H. R. 9592 seventy-first congress.

2. Legislation should be enacted providing that ocean mail contracts shall not be awarded to American lines operating foreign flag ships in competition with American-flag ships, substantially as provided in S. 628 seventy-second congress.

3. Section 409 (b) of the merchant marine act of 1928 should be amended so as to authorize higher rates of pay than now provided for mail-carrying vessels whose speed is in excess 24 knots. Mail pay for this class of ships should be commensurate with the increased differential in cost of operating vessels of the higher speeds.

**Tax Exemption Provisions**

4. Provision be made for tax exemption on American vessels operating in foreign trade, including a provision whereby deductions shall be allowed from taxable income derived from operating profits to the extent that such profits are devoted to new ship construction in American yards.

5. Legislation should be enacted looking to the transfer to privately owned American shipping interests of the peace-time business now handled by army and navy transports and by the vessels owned and chartered by the Panama Railroad Steamship line.

6. Funds should be appropriated to carry into effect the act of congress approved Feb. 23, 1925, providing for the creation of a naval reserve.

7. Some form of government aid should be provided for American cargo ships not benefited by mail contracts, in order to lower the operating differential which now handicaps these vessels in competing with ships owned and operated by foreigners.

8. It is recommended that the limitation of $185,000,000 on the amount of construction loans as prescribed in the independent offices appropriation act, fiscal year 1932, page 21, be removed, and that the shipping board be authorized to enter into contracts to make loans up to the ultimate amount of the fund, namely, $250,000,000, the board, however, not to obligate itself to make actual disbursements of money in excess of the available cash balance standing at the time to the credit of said fund.

9. It is recommended that section 11 (a) merchant marine act, 1920, be further amended to provide that the contributions to the construction loan fund by the United States shipping board be permitted to continue until such sums, plus appropriations by congress, reach the maximum of $250,000,000 provided by section 202 (b) merchant marine act of 1928.

10. It is highly important that legislation be enacted granting authority to the board to extend, rearrange or hold in abeyance payments due the construction loan fund, under certain restrictions which would protect the interest of the government, substantially as provided in H. J. res, 328, seventy-second congress.

And here is what the board says in this same report just following the statement of recommendations:

"Had it not been for the aids granted by congress in 1928, it is doubtful if many of our overseas services could have survived the distressing conditions which have prevailed in international trade during the past year.

"The United States, foremost exporting nation and principal contributor to international long-voyage passenger traffic, actually has less tonnage in the foreign trade per ton of exports, or per head of population than has any other commercial maritime power. Notwithstanding the rapid growth of its commercial shipping since the war, its minimum needs are still far from being satisfied in the matter of modern vessels. In this connection it a point worthy of note that six other countries have each launched more tonnage within the past four and one-half years than has the United States.

" 'In view of these facts the board cannot with equanimity contemplate any proposal that would tend to interfere with the avowed policy of the American people to build up an adequate merchant marine.' "

"Now, my friends, I submit that it is the plain duty of the industry to study these recommendations from a technical and practical standpoint, and if it is thought they are unsound in any respect, then go to the board and thrash out any difference of opinion. If, on the other hand, we think they are sound and needed from the standpoint of the government and of the industry, we should get behind them and assist in having them enacted into law.

"Pussyfooting in and around congress to get this concession or oppose this or that measure, sometimes with a divided house among ourselves, will not work to the best interest of the industry or improve the standing of those who are in it. I firmly believe that congress would like to see these matters handled as an industry organized and equipped to speak on the subject in such a manner as will command the fullest respect and confidence of everybody concerned."

MALCOLM M. STEWARD representing the Middle West Foreign Trade committee spoke on "*The Middle West Interests in the American Merchant Marine.*"

Mr. Steward called attention to the fact that for many years the people of the Middle West have been

demanding the permanent establishment of an American merchant marine to carry the greater portion of our commerce. He pointed out that a lack of a merchant marine had on several occasions made it impossible to adequately carry on our commerce. He referred to the time of the Boer war and again in 1914 when the products of farms and industry were piled high on the wharves and stored in box cars for thousands of miles back from the seaboard as well as in bursting warehouses and grain elevators.

In concluding Mr. Steward said:

"I am sure that you will agree when I say that the attitude toward our merchant marine in this crisis is the test of our policy on the greatest single factor involved in retaining our supremacy in foreign trade and the subsequent return of normal business activity of these United States.

"The Middle West wants an American merchant marine.

"The Middle West must have an American merchant marine.

"Our farmers, manufacturers and producers of raw material must never again be left stranded on high and dry land."

### Our Trend on the Pacific

CAPT. W. J. PETERSEN of the Pacific American Steamship association next addressed the conference. He pointed out that it is up to the shipowner himself to meet the difficult conditions that confront him and unless the shipowner does so he is not going to get very much relief. Among the problems he referred to was the status of trade with the Philippines and the wisdom of continuing the policy that will keep the increasing trade with the islands for American ships.

Another matter of financial concern to American ships Captain Petersen said is the management of the Panama canal, and concerning the operation of which even our steamship operators are not well informed. He pointed out the injustice of charging merchant vessels, through tolls, for the upkeep of the national defense establishment at the canal and the transit of ships of war and of vessels of the Panama Railroad Steamship Co. and the repair, dockage and maintenance of these vessels which have reduced commercial rates and are in unfair competition with private vessels.

He also referred to the necessity for radification of the international agreement for the safety of life at sea. Mention was also made of the annoying and often costly demands on private shipowners due to unnecessary variation in statute and in the lack of clarity and directness of the language of some of these statutes. As an illustration he mentioned the reversal of established precedent by a decision of the Supreme Court on Nov. 7 last in connection with the status of a foreign seamen on an American ship.

In concluding Captain Petersen suggested that the merchant marine needed within the government a definite head just as much as do the departments of war, interior, commerce, labor, etc. By having such a head with the centralized power to carry out an American merchant marine policy it would be possible to give the merchant marine what is needed to place it on a solid and efficient basis. He expressed the hope that the time had arrived, with a new and united administration going into office, for constructive effort to centralize the national administration of our American merchant marine so the American shipowner and operator can present his problems and complaints and thus assure success for this important commercial and national industry.

THE Farmers and the Merchant Marine was the subject of an address prepared by James C. Stone, chairman of the federal farm board. He emphasized the fact that in the future the farmers through their organizations are going to exert a more active influence on ocean transportation and that the agricultural elements have a definite interest in the commendable work already done in improving the shipping service to foreign countries. The establishment of numerous lines with ships from this country to all principal ports of the world giving some control over ocean freight rates should mean something to the farmers in actual dollars and cents.

Mr. Stone suggested that the farmer has been gradually finding a common ground upon which he could organize for economic, commercial and even social purposes. A large percentage of agricultural producers now belong to well organized associations. It is through these associations that the farmers may be most effectively reached and he urged the importance of contact with these organizations by those who are responsible for the development of our American merchant marine.

JOSEPH, P. RYAN, president of the International Long shoremen's association prepared an address on the cooperation between employes and employers. He dealt on the value of cooperation between employes and employers in the marine labor field and concluded his remarks by saying:

"And so I feel that I can very truthfully say that there is absolute cooperation between the membership of our international association and our employers.

"In concluding I pledge to you, Mr. Chairman of the United States shipping board and to our marine employers, the full cooperation of our organization in any measures, whether legislative or otherwise, that will serve in placing the American merchant marine in the high position where it belongs, as we realize the future of our country is to a great extent dependent upon a strong, functioning American merchant marine."

CLEVELAND A. NEWTON, general counsel of the Mississippi Valley association spoke on "*Value of Merchant Marine to the Interior.*" Mr. Newton pointed out the necessity of getting the average man the voter, throughout the country to a full realization of the necessity of a merchant marine both in the interests of our commerce and as a measure of national defense. Also, that it costs more to build ships in American yards than it does in foreign yards and that it costs more to operate these ships under the American flag because of the difference between foreign and American standards of living.

In concluding his remarks Mr. Newton said:

"Mail pay? It may be true that some of these ships are not carrying enough mail to justify the pay. Why can't we convince the people of the interior of this country that mail pay is the thing which secures the dependable ocean service from our ports to foreign ports; that dependable ocean service develops commerce in foreign ports, and that mail follows commerce, and while your mail pay may not be justified from an economic standpoint, purely from carrying the mails today, you will carry on that dependable service and improve your class of service, make your ships more speedy and more dependable and push that commerce under the American flag, and the time may well come when this expenditure of the government will be reduced, when our national defense will be made more secure, and when our commerce with foreign countries will come into its own with the other maritime nations of the world."

THE last speaker at the conference was R. R. Massey representing the American Merchant Marine Library association. Mr. Massey presented to the conference a brief review of the operation of the association over a period of 11 years. The association provides a free circulating library service for seamen sailing under the American flag and for men serving in isolated coast guard stations, lighthouses and lightships. The valuable work being done by this association has been referred from time to time in past issues of MARINE REVIEW.

"The general affairs of the association," said Mr. Massey, "are governed by a board of trustees consisting of 23 members and a national advisory board of 8 members.

# National Transportation Committee on

## Railroads and Waterway Competition

AT THE request of a large group of savings banks, insurance companies and colleges, a national transportation committee was organized Oct. 7 last. The late Calvin Coolidge was chairman of this committee and the other members are Bernard M. Baruch, vice chairman; Clark Howell, publisher, *The Atlanta Constitution;* Alexander Legge, president, International Harvester Co.; and Alfred E. Smith, former governor of New York. This committee was organized to investigate the condition of the railroads and transportation generally. For four months it has given this subject intensive study and many hearings have been held in which the various interests involved presented their views and data. Calvin Coolidge died on Jan. 5 after the committee had nearly completed its research, but before the report had been prepared. In issuing the report on Feb. 15, Vice Chairman Baruch announced that the committee felt that its findings would have had the full approval of its late leader.

Following is the complete report of the committee insofar as it affects water transportation. Though generally in agreement with this report, Alfred E. Smith issued a minority report in which, as he said, he could use his own words and place the proper emphasis on those matters he felt should be emphasized. What Alfred E. Smith has to say about water transportation in his minority report is also published in full below.

### Waterways and Railroads
### Majority Report

1 Railroads should be permitted to own and operate competing services, including water lines, but regulatory jurisdiction should be extended to water rates and practices in coastal, intercoastal and lake shipping to relieve commerce of present chaotic conditions. Congress should promptly clarify its intention on the long-and-short-haul clause of the transportation act..

Restrictions on the ownership by railroads of water-borne, automotive or other competing services seem anomalous in a regime which has demonstrated its effective control of both rates and practices.

There are certain competitive situations where railroad rates between two ports are fixed by regulation and unregulated water rates are in chaos. This is disturbing to commerce and unfair to railroads. For this and other reasons we believe that the jurisdiction of the regulating body should be extended to cover intercoastal, coastal and lake commerce. We do not mean to recommend that water rates, based on actual lower costs, should be regulated upawrd to equalize traffic in favor of railroads, but we do believe that, in such a situation, some stabilizing influence should be applied in the interest of commerce generally as well as in fairness to railroads.

The law prohibits a railroad from charging less for a longer than for a shorter haul, over the same line, in the same direction, the shorter being included in the longer, but permits the interstate commerce commission a discretion to relieve this restriction.

The law is not altogether clear and the commission's interpretation and decisions have been the subject of long and persistent controversy. Grave consequences affecting wide economic areas are involved and the situation requires prompt clarification Two pending suggestions by the interstate commerce commission and one by the house committee might contribute thereto. If jurisdiction of the commission be extended to include intercoastal commerce, or if a new rule of ratemaking be adopted, the problem would be simplified. But if neither of these things is done, it is important that congress act at once to declare its intention on this important application of the so-called "long-and-short-haul" controversy.

2 Government assumption of all or part of the costs of inefficient competing transport as a defense against monopoly is no longer warranted and should be abandoned. As a general principle inland waterways should bear all costs of amortization, interest, maintenance and operation of the facilities for their navigation. If they cannot bear such charges and compete with other forms of transport, they should be abandoned. The St. Lawrence waterway should be tested by this rule of self-support and if it fails in that test the pending treaty with Canada should not be ratified. Governmental commercial operation of the actual facilities of transportation, such as barge-lines, should not be continued.

Creation and maintenance, by government, of competing methods of transport, where the result is not (as in the Panama canal) to provide more efficient service at lower cost, but only (as in some inland waterways) to maintain at the taxpayers' expense, more costly and less efficient service can no longer be justified as a defense against monopoly.

This government has long been committed to the improvement and maintenance of shipways and of at least the outer harbors of ports accessible to great naturally navigable waterways. This involves expense, defrayed by taxation of the whole nation, but applied at particular points, in the development of the instrumentalities of interstate and international commerce. To an extent, these waterways are the railroads' competitors, and, as

## Mr. Smith on Waterways

### Minority Report

AS TO water transportation, with particular reference to inland waterways, I believe that government subsidies in this field should be curtailed, not primarily because they result in unfair competition with the railroads, but because these subsidies have not proved effective. Certainly the New York State Barge canal cannot be said to compete with the existing railroads, because in spite of construction and maintenance by the state and free tolls, the barge canal carries so little freight that it presents no problem to the railroads. The New York State Barge canal is an heirloom. Sentiment rather than common sense makes us keep it up.

I am opposed at this time to the construction of the St. Lawrence waterway because it would be a waste of public funds. Present rail facilities are more than adequate to provide for everything which the proposed canal can accomplish. The cost of moving grain would not be lowered by this canal sufficiently to justify the enormous expenditures which it would involve; keeping in mind also that this waterway would be open only for a part of the year and that the railroads would have to be used anyway the rest of the year. I believe that a special investigation should be conducted into the Inland Waterways Corp. to discover exactly what it costs the war department to operate this corporation and whether or not further expenditures for this purpose should cease.

far as they go, these expenditures favor them. But in respect of accessories to naturally navigable waterways, such as ocean harbors and their approaches and the harbors and channels of the Great Lakes, this is a recognized function of government the world over, for naval as well as commercial purposes, and the railroads may be presumed to have been located, financed, and constructed with this in view. We have not heard it decried as an unjust handicap and with these remarks it passes from our consideration.

But, with inland waterways in general, the case is otherwise. For the sake of illustration, let us imagine a federally constructed canal between, for example, Topeka and Oklahoma City—a stark ditch. If that canal fairly bore the burdens of its cost of construction and operation and yet could furnish transportation at an advantage over rails, nobody could complain, regardless of the extent to which it diverted railroad traffic. But if such was not the case and the canal could compete only if the public paid enough of these charges to undercut the cost of rails, it seems too obvious for argument that its creation and maintenance would be a direct impairment of the railroad system by public subsidy and distinctly inimical to the national interest.

Exactly the same principle of self-support seems applicable to any natural waterway upon which improvement and engineering devices are necessary to provide effective navigation. We think it is the very touchstone of the whole vexed problem and that every existing or projected improvement should be tested by its application. Any project which fails to answer that test should be abandoned, without hesitation, as an unwarranted waste of public money.

**a. The Great Lakes Waterway**

The connecting channels of the Great Lakes were not navigable in the modern sense in their natural state, but the Great Lakes waterway now stands as a fully created, implemented and efficient system of navigation which, in many respects, falls under the considerations governing federal improvement of ocean ports, harbors and shipways.

**b. The St. Lawrence Seaway**

There are obviously not at present any facilities for navigation, by ocean-going vessels, of the restricted waterways connecting the Great Lakes with each other and with the sea. The project to create such a shipway to the head of Lake Superior is a major engineering project of stupendous magnitude and very great cost. There is diversity of opinion as to whether the project is practicable. It is clear from our studies that the peculiar type of lake bulk-carriers is far more efficient than any ocean freighter and from this fact that the area of economy is restricted practically to savings in cost of trans-shipment. But our stdies also show that, in no reasonable probability, could this minor saving be enough to approximate even the carrying charges on this project.

In conformity with one of the general principles already announced, if this seaway could be shown to be the march of progress and if cheaper and more efficient transportation can thus be achieved, no barrier should be imposed against such a development. But we think that, before ratification of the pending seaway treaty with Canada bargaining away valuable American rights, this project should be fairly tested on the rule of self support and, if it fails, the treaty should not be ratified.

**c. Government Barge Lines**

Argument for and against government operation of barge lines was strongly pressed before us. In this case, not only is the waterway itself provided and maintained at public expense, but the actual business of transportation thereon is in part financed by government. The claim is made, and in our judgment sustained, that, if the methods of accounting used by the government in respect of the Panama canal were applied, they would reveal operating losses which are charged to the taxpayer. We think that actual government operation of the facilities of transportation, wholly or partly at public expense, is unjust to the vast majority of people, and unwarranted by any argument that has come to our attention.

**d. Inland Waterways in General**

We recommend that the congress give consideration to the formulation of a consistent policy on inland waterways. We think that the test of self-support should be applied to every existing or proposed inland waterway.

Unbearable tax burdens are generally recognized as a principal hindrance to economic recovery. Our waterway policy for the past few years has averaged a cost of about $100,000,000 annually and tremendous projects involving hundreds of millions are being considered. Our studies show no commensurate economic benefit resulting from much of this spending. In such circumstances, we think that a large part of this activity should be abandoned or at least suspended. It bears heavily on the taxpayer as a direct burden and even more heavily on the whole community in its contribution to the postponement of prosperity. At a time when the very stability of our system depends on the balancing of federal expenditures with revenue and the sources of taxation seem almost dry, we find it difficult to justify this wasteful outpouring of hundreds of millions of dollars for results so barren of economic returns.

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## Ship To Shore Telephone

The radio telephone brought the ocean closer to shore when Captain Doucette of the trawler GERTRUDE M. FAUCI rescued Capt. Newton Wilkie and his crew from the schooner DAWN WILKIE on the high seas and later the same morning was being interviewed over the telephone by a reporter on land. Shortly before that the rescued skipper himself had telephoned his wife, waiting in an agony of suspense in her home in St. John, N. B., and she heard his own voice telling her that he and his crew had been saved.

The FAUCI is one of several trawlers which have recently been equipped with the new Western Electric marine radiophone systems that enable them to talk with any other telephones in the Bell system on land through the New England Telephone & Telegraph Co.'s station in Boston. Captain Wilkie was some 200 miles out of Boston when he called his wife and his voice flashed to the station there and then went by land lines to his home in St. John.

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## Carry More Passengers

Transatlantic travel on ships of the North German Lloyd for the year 1932 showed a slight increase over the preceding year. In 1932 there was an increase of 443 over the number carried in 1931. The 1932 figure, 115,643, tops the total for any line or group of affiliated lines operating over the same route between Europe and the United States during the past year.

In 1932 the express liners, BREMEN and EUROPA, carried a total of 82,909 passengers across the Atlantic, east and west. Of this number 21,297 were carried in first class, and the average number of passengers on these steamers, in all classes, equaled 1011 persons per sailing.

The BREMEN and EUROPA, the first in service since July, 1929, and the latter since March, 1930, have made a total of 118 round-trips, covering over 900,000 miles, on which they have carried over 281,000 passengers, thus indicating that speed is still the primary consideration of transatlantic travelers.

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Daniel I. Whittelsey, president of the Oil Transfer Corp., New York, died on Feb. 4 at Battle Creek, Mich. He was 55 years old, and was a graduate of the Sheffield Scientific school, Yale university in the class of 1901. He was a member of the Society of Naval Architects and Marine Engineers. He is survived by his widow, a daughter and two sons.

## Luckenbach Would Abolish Army Transport Service

On Feb. 14 in opening the company's first freight and passenger service on Manhattan island to and from the Pacific coast, Edgar F. Luckenbach, president of the Luckenbach Steamship lines, pointed out an immediate opportunity for congress to help American business to regain its feet and stop government competition as recommended by the Shannon committee.

"The army appropriation bill is now before congress," said Mr. Luckenbach. "It carries an appropriation of about $5,000,000 for the maintenance of the antiquated army transport service. If that service were abolished, as so many army, navy and departmental leaders have recommended, and the amount reserved for the transportation of supplies and personnel by private steamship lines, it would save the government money, vastly increase the efficiency of army freight and troop movements and give substantial aid to the sorely pressed shipping industry, without a nickel of added expense.

"The army transport service maintains at great cost a number of antique vessels, which some naval experts have dubbed 'floating museum pieces.' When it is decided to ship supplies to one or more army bases the assembling of a cargo from all over the country is undertaken. The diverting of shipments from the sources of supply to the distant ports where the transports are maintained, the interest charges, the deterioration of goods and the double handling in trans-shipping all cause unnecessary loss of time, effort and money.

"At all the ports of the transport service there are fast, modern private cargo and passenger ships, with very frequent sailings, which can carry all supplies as needed and all army personnel quickly, safely and economically to any port in the world. The army would thus have a magnificent fleet of privately owned transports available and could place its own transports at such strategic points as might be deemed desirable for the most efficient possible execution of its requirements in any emergency. No unemployment whatever would be caused by this long needed change."

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## Capt. Dreschel Promoted

Capt. William Drechsel, marine superintendent of the North German Lloyd in New York, has been promoted to general marine superintendent of the line in that port. This appointment was made in recognition of Capt. Drechsel's capable administration of the North German Lloyds marine activities in the port of New York, especially in handling the BREMEN and EUROPA.

Since the entry into service of these two liners in 1929 and 1930, respectively, they have arrived and departed from their pier in Brooklyn over one hundred times, often within an interval of less than twenty-four hours. All the manifold activities attendant upon their reception and dispatch have been successfully performed, under the direction and control of Capt. Drechsel.

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## Joins Marine Review Staff

Robert D. MacMillen has been appointed eastern manager of MARINE REVIEW and will be located at its New York office, 220 Broadway. Mr. MacMillen is well posted on marine affairs. In 1926 he opened his own office in New York as sales and publicity counsellor, and at that time began to apply to the marine field his broad experience in publishing and market study. Among his clients were Merritt Chapman & Scott Corp. and United Dry Docks Inc.

One of his outstanding efforts at this time was the preparation and arrangement of material in the publication of the book *Black Horse of the Sea* for Merritt Chapman & Scott, which came out in 1929. In 1931 Mr. MacMillen succeeded D. Field Brittle as assistant to the president, United Dry Docks Inc.

In addition to his purely marine experience, Mr. MacMillen has held responsible administrative posts with the Union Carbide & Carbon Corp. and with several leading industrial advertising agencies.

**Robert D. MacMillen**
*Appointed Eastern Mgr., Marine Review*

## High Pressure Steam Unit For Staysail Ketch

A number of unique features will be incorporated in the power plant of a 72-foot staysail ketch which is to be built for American account in a German shipyard. The entire machinery plant is to be of American design and construction. The vessel and machinery have been designed by Jasper Morgan, New York, naval architect in conjunction with Cox & Stevens.

While designed for ocean cruising and racing under sail, a complete steam propelling plant to give 9 knots speed is to be installed. The unusual features of the propelling machinery is the selection of a modern high pressure, high temperature, high efficiency type, triple expansion reciprocating steam engine, having unusually low weight and space characteristics. The engine is to develop 60 shaft horsepower at 600 revolutions per minute operating with 600 pounds steam pressure at gage and a total temperature of 800 degrees Fahr. Steam will be generated in a vertical boiler in the casing of which will be included an economizer and superheater. Ordinary furnace oil will be burned in a patented burner which gasifies the oil thus assuring freedom from soot, smoke and noise. The engine is to be placed directly over the line shaft and will be connected to the shaft through a silent chain drive with a ratio of unity.

A three pass surface condenser manufactured by the Condenser Service & Engineering Corp., will take the exhaust from the main engine. Electrical power to charge the 32 volt Exide storage battery will be provided by a 1 kilowatt Westinghouse marine generator, driven at 1750 revolutions per minute by cog belt drive from the end of the engine crankshaft. All necessary auxiliaries are driven from the main engine. The plant is designed so that steam may be raised in 10 minutes by hand pump. Steam having been raised, the pilot light will keep it up, ready for instant operation at full power.

Control of the engine is extremely simple and positive consisting merely of a throttle and reverse lever to the Stevenson link of the engine. The complete plant including fuel and makeup feed water, will weigh about the same as a marine gasoline motor with reduction reverse gear clutch, fuel and lubricating oil. It is expected that the fuel consumption will not exceed .7 pound of furnace oil per shaft horsepower per hour for all purposes. The actual performance of this plant should give some interesting data on what might be termed an old type of drive brought up to date.

# New Hull Form is Developed for Increased Economy

SIR JOSEPH W. ISHERWOOD is known the world over wherever ships are built as the originator of the longitudinal and the bracketless systems of hull construction. These systems have been successfully used in the building of many ships. The announcement recently made that he has developed still another hull design, is therefore, of special interest to all shipowners and shipbuilders. The new design is known as "arcform," and is intended to produce efficiency without increased first costs, by giving reduced fuel consumption or increased speed, increased cubic capacity, improved ballast conditions, increased strength and increased deadweight carrying capacity.

It is well recognized that in recent years a marked improvement has been made in propulsive machinery for merchant ships. This has resulted in a substantial gain in economy. Improvements have also been made in certain hull features such as streamlined rudders and fixed fins on rudder posts of stern frames. Hull forms have been modified at the fore and after ends. Patented forms have been applied to the fore end and the general tendency for the after end has been to use fine lines to facilitate the run of water to the propeller. These modifications have given generally satisfactory results.

### Improvement in Hull Design

The new forms, however, are primarily of advantage in large high speed vessels. In smaller and slower speed vessels, it is more difficult to establish the advantage of these modifications over the lines along established general practice. In cargo carrying vessels, it has been shown that it is an advantage to locate the center of buoyancy somewhat further forward of amidships than used to be the custom. This was learned from the necessity of locating the center of buoyancy well forward in tankers. Improvement in hull design, generally speaking, has not kept up with the very definite improvement in propulsive machinery which has resulted in large economies in the reduction of fuel consumption.

Beginning with the introduction of the longitudinal method of construction, many improvements and economies have also been made in the construction and arrangements of hulls. Within the lifetime of the inventor, nearly 2000 vessels with an aggregate deadweight carrying capacity of over 15,000,000 tons have been built using this system.

The new form of hull now developed, is to be applied to six vessels which are about to be ordered. In a recent interview Sir Joseph Isherwood expressed the opinion that the truly economical vessel must not sacrifice strength for lightness in construction by cutting down scantlings to the danger point. He has consistently practiced and advocated both the strength and efficiency of vessels, and in the designs he has sponsored he has kept rigorously to these principles.

He has long been of the opinion that the effective power to drive a ship through the water was too high and that the necessary increase of power to gain an increased speed, of let us say a knot, was entirely disproportionate. He recognizes, of course, that an increase in power proportionate to the increase in speed is unavoidable, but he has maintained that the efficiency for certain ranges of speed should not fluctuate so drastically as at the present time. He is also of the opinion that some means should be found for overcoming the tremendous loss of efficiency and consequent disproportionate increase in power necessary today for comparative vessels with the same length, but of different displacements. In other words the fuller model ship should not need to be penalized to such an extent as it now is.

### Middle Body Hitherto Neglected

He believes that while the fore and after lines are of great importance and also that the "cod head and salmon tail" theory still holds good, that sufficient consideration has not been given to the greater middle body portion of the ship and its ultimate effect on the streamlines or rather the flow lines of water past this great comparative bulk of the ship. The most economical streamlines, he feels, are not obtainable through modification of the fore and aft lines only.

For some time, in collaboration with a highly trained technical and theoretical staff. he has given this matter close study with the view of establishing the basic principles of true economy and as perfect streamlining as the many exacting practical conditions of ship design will permit.

Following the results of these studies he has made a bold change in the usual midship section contour. The new middle body portion so developed was fitted with the forward and after ends of an actual vessel of about 8500 tons deadweight and which was known to be giving satisfactory results in service. By experiments at the National Physical laboratory at Teddington, the correctness of his theory was demonstrated; the new form giving an additional 180 tons displacement secured by an increase of three inches in draft. While, of course, proportionately greater power is required for a reasonable range of speed, the efficiency was maintained over a spread of 3 knots. This was due to the fact that the resultant admiralty constant was not reduced by more than 2 per cent between the range of speeds of 9 and 12 knots. These experiments established the principle of the change of the middle body portion wherein lies the bulk of the displacement of the vessel.

### Model Tests Show Advantage

The model tested was for a vessel 395 feet in length. Another model was then built, adding some 220 tons displacement, without altering the predetermined midship section contour. The tests with this model showed substantially that no more power was needed to drive the vessel over the range of 9 to 12 knots. The resultant admiralty constant did not vary by more than 5 per cent within this range of speed. It was 409 at 9 knots and 389 at 12 knots, both being based on indicated horsepower. Further proof was thus obtained that wi hin the considerable range of speed from 9 to 12 knots, efficiency was not sacrificed.

A third model was made with a further additional displacement of 250 tons. The resultant admiralty constant continued exceptionally high, and it suffered a reduction of less than 4 per cent between 12 knots and 9 knots.

These tests were begun on the basis of a 10-knot model of ordinary form with a comparable block coefficient of something under .77. For the final tests of the new form of vessel, the displacement was increased by 475 tons. The comparable block coefficient of the vessel of normal form was increased to so much as .80, and the corresponding admiralty constant based on indicated horsepower were 391 at 9 knots and 378 at 12 knots. These facts and figures are based on the results of the Teddington tank tests, and there appears to be no reason to question their complete accuracy. Still better results, it is believed, may be attained by the use of specially designed propellers, rudders and similar well recognized economy features.

Though a firm believer in the ac-

(*Continued on Page* 21)

*The facts on which this article is based were supplied by J. W. Stewart, director, Sir Joseph W. Isherwood & Co. Ltd., New York.

# New Terminal at Rochester Facilitates Traffic

THE accompanying illustrations show the new package freight and passenger terminal at Rochester, N. Y. An article on this terminal, shortly after work had been commenced, was published in the Dec. 1931 MARINE REVIEW. The terminal was completed in August, 1932. It provides ample modern dock facilities for lake ocean and barge canal shipping at the port of Rochester, giving access to Lake Ontario.

Due to the completion of the Welland canal and the increased capacity of the Barge canal and the needs of Lake traffic, it was decided during the spring of 1931 to make a preliminary survey of the possibilities for improving the package freight and passenger facilities at this port.

It was found that approximately 300,000 tons of cargo was offered annually for trans-shipment at Rochester and that with proper facilities providing economies in transfer and handling that this tonnage under normal conditions might be increased to 500,000 tons. From 75,000 to 90,000 passengers are also handled annually at Rochester. This traffic is to and from Canadian ports. The companies handling these passengers are: the Canada Steamship lines with passenger and package freight vessels of the typical side-wheeler Great Lakes type; and the Ontario Carferry Co., a subsidiary of the Buffalo, Rochester & Pittsburgh railway; the latter company using carferries. Since this movement in passengers is international, provisions had to be provided for convenient customs and immigration inspection.

The plans for the terminal were prepared by R. S. MacElwee, then associated with MacElwee & Crandall Inc., consulting engineers, Cambridge, Mass. A quay type of pier design was adopted with marginal tracks and transit sheds. The quay wall is about 1200 feet in length and of this length 804 feet is a typical ocean quay of 30 feet width, carrying two railroad tracks.

The illustrations show particularly the style of transit shed, the upper landing and gantry gangplank for the transfer of passengers from the upper deck of carferries and passenger boats to the passenger deck on the wharf. In this way passengers are completely segregated from the activities on the main floor where longshoremen are handling package freight.

It is evident that the finished project is not only efficient for its purpose but is neat and pleasing in appearance. All the metal work is painted with aluminum paint, which together with the color of the tapestry brick and the gray of the stucco walls of the upper floor makes an unusually attractive structure. This was accomplished at no greater cost than a corrugated iron building which would require much greater expense in upkeep and maintenance.

Transit shed doors are of the double horizontal sliding type, placed in alternate bays. They are 10 feet wide by 14 feet high to permit the use of crane attachments on the industrial trucks.

This passenger terminal has been designed and built to harmonize architecturally with the fine buildings of the Lake Shore park constructed by the city of Rochester.

*Quay side and transit shed of the new terminal at Rochester, N. Y. Gantry gang plank for transfer of passengers from upper deck of vessel to upper deck of shed*

*Passenger landing on the upper deck of transit shed at the new terminal for package freight and passengers at Rochester, N. Y. Completed in August last year*

## Hull Form Developed

(*Continued from Page* 20)

ceptance of tank tests as a basis of comparison, Sir Joseph does not propose to take advantage of the full amount of displacement gained as shown by the tests as he realizes that such tests do not ordinarily fully allow for the effect of rough seas and gale conditions. For the ships that are about to be built, he proposes to reserve more than an ample margin. It is his opinion that for ships trading in sheltered waters, full advantage should be taken of the results obtained in the model experiments.

The ships which are to be built will be capable of a speed of 11½ knots on loaded trials. The good weather sea service speeds, however, are to be 11 knots for a daily coal consumption of 21.5 tons per day, or 10 knots on a consumption of 16 tons per day. The efficiency of these vessels and their adaptability for various speeds will make it possible for them to do 9 knots in actual service on a daily coal consumption of less than 12 tons. This refers to the actual coal consumed on a voyage. With such performance, tramp ship owners are confident that these vessels can be operated at a profit even at the low freight rates now prevailing.

Tests giving excellent results, have also been carried out on a model of a 16-knot, 395-foot ship. At the present time tests are being carried out for an equivalent sea speed of 35 knots or greater.

## New Grace Liners Carry Full Passenger Lists

Beginning with the maiden voyage of the SANTA LUCIA from New York Feb. 17, the new ships, of the Grace Line, SANTA ROSA, SANTA PAULA, SANTA LUCIA, and the SANTA ELENA when she is completed, will visit Puerto Colombia and Cartagena, in Colombia, South America, on their westbound as well as on their eastbound voyages in the New York-Central American-California service. And, starting with the Feb. 17 sailing, they will leave New York on Friday at 2 p.m. instead of Saturday noon.

The new itinerary includes New York, Havana, Colombia, Panama, El Salvador, Guatemala, Mexico, California, British Columbia and Washington. The voyage is broken every second or third day by visits on shore and although ample time is allowed for sightseeing in each port, the new 20-knot Grace Liners take 16 days between New York and California.

It is reported that "the trip abroad" en route to the West Coast, coupled with the many new features introduced by these latest American-built ships has resulted in a full passenger list for every sailing on the new liners, thus far.

## Luckenbach Heads Bureau

At the annual meeting of the American Bureau of Shipping, held at the offices of the bureau, 24 Old Slip, New York city, J. Lewis Luckenbach, who has been executive vice president since 1927, was unanimously elected president. He succeeds the late Capt. Charles A. McAllister who died in January last year. Mr. Luckenbach, who is a member of the well known Luckenbach steamship family, has long been interested in maritime affairs.

Gilbert P. Taylor was re-elected vice president and treasurer. J. W. Cantillion was re-elected secretary and assistant treasurer. W. W. Parsons, F. G. McComber and H. H. Raymond were elected honorary vice presidents.

Several new members were added to the board of managers including R. Stanley Dollar, president of the Dollar lines; John D. Reilly, president of Todd Shipyards Corp.; John M. Franklin, vice president of the Roosevelt-International Mercantile Marine Corp. and Joseph Wood.

## Queen of Bermuda Trials

Word was received on Feb. 18 by H. C. Blackiston, director in the United States of the Furness-Bermuda line, that the new liner QUEEN OF BERMUDA had successfully completed her sea trials. The cablegram signed by Lord Essendon, chairman of the company, said in part:

"QUEEN OF BERMUDA, all trials satisfactorily completed. United opinion that ship is a magnificent success."

The QUEEN OF BERMUDA left Liverpool on Feb. 13 for the Clyde and her official sea trials over a measured course. During these trials she attained a speed of 21.07 knots.

## Board Chairman is Elected, Hamburg-American Line

Marius Boeger, the new chairman of the Hamburg-American line board of management, was born Aug. 30, 1869, in Maasholm, Schleswig-Holstein, Germany. He received his initial training in various shipping companies in and outside of Germany. In 1911 he became director general of the German-Australian Steamship Co. and has since then been an ardent advocate of the unification of German shipping.

In 1922, the German-Australian Steamship Co. and the Kosmos line were combined into a new company, the German-Australian and Kosmos lines, and Mr. Boeger was appointed managing director. Later on, this new company was merged with the Hamburg-American line, and in 1926, he joined the board of directors of the latter, and soon thereafter was chosen vice chairman of the board.

Mr. Boeger has had a large and important share in the postwar reconstruction of the German mercantile marine; he has taken active part in many international shipping conferences and has held many honorary posts in shipping and affiliated companies. He is also a member of the board of directors of some of the largest German steamship companies, banks and insurance companies.

**Marius Boeger**
*Chairman, Hamburg-American Line*

## Ships as Good Customers Of Domestic Products

American ships calling at foreign ports are among the best friends for the American manufacturer, farmer and business man. They return monthly into American channels an amazing wealth, expended by them in outfitting for their journeys to foreign seas.

As an example of this, the Matson-Oceanic line, San Francisco, operating liners to Hawaii, Samoa, Fiji, New Zealand and Australia and occasional cruise liners completely about the Pacific, has purchased for one voyage alone of its latest new liner LURLINE, over 850 item lots! These include great quantities of provisions as well as extensive marine and manufactured supplies for mechanical upkeep and operation of the ship, and transferred into dollars represent an astounding sum. Nor do they include salaries and incidental expenses!

"Here is concrete evidence," stated officials of the company, "of the stimulation of American trade through purchases in the United States by America's merchant marine. Built and operated under the marine act of 1928, the LURLINE has on this one voyage turned back into the coffers of almost every state in the Union money running into the thousands of dollars that would, in the case of foreign flag ships carrying this business, go into the pockets of foreign countries!"

## Board Sells Gulf Lines

The shipping board on Feb. 16 approved the proposed form of sales contract which, subject to the award of a mail contract now under advertisement by the postmaster general, will transfer to the Lykes Bros.—Ripley Steamship Co., New Orleans, 52 steel cargo ships. These vessels are to be operated in a guaranteed service from the Gulf to the United Kingdom, Continent, Mediterranean and the Orient. The price consideration is $2,461,790 "as is, where is" with no repairs to be made by the board, insurance or otherwise. The contract provides for a down payment of 25 per cent or $615,447 cash with balance payable over 7½ years.

It is anticipated that as against cost of board operation and the compensation under a mail contract, the government will save by this sale over $1,400,000. per annum as well as securing immediate increment to the treasury of the cash down payment. With the sale of these services, the shipping board will be out of operation in the Gulf as well as the Pacific coast, lines heretofore operated thereat having been sold.

# Reciprocating Marine Steam Engine

## Marked Improvement in Efficiency

By J. F. Paige

WITH the increasing tonnage and power of modern vessels, conservation of fuel becomes a matter of paramount importance. The gradual development from the simple reciprocating engine of the pioneer steam vessels to the compound, then the triple and quadruple expansions, with the corresponding increases in working pressures, are facts well known to all who "go down to the sea in ships."

The early steam engines were exceedingly wasteful. Fuel consumed per horsepower was greatly lowered as multi-cylinder engines and higher steam pressures were adopted. The development of the steam turbine for marine purposes led to still greater economies in fuel.

### Effect of the Diesel Engine

Following the advent of the diesel engine, about 1912, generating its power by the combustion of oil fuel directly in the cylinders, thus eliminating boilers and various auxiliary engines, there came a pronounced reduction in the actual fuel consumed per horsepower.

Here, in the last line of the paragraph above, is the crux of the situation. Therefore it must be apparent that the attention of the engineer, builder and owner should be directed towards the "conservation of fuel," both when considering new tonnage and when seeking to reduce existing power operating costs. There is no imminent likelihood of the discovery of any fuel as a substitute for coal or oil for the purpose of generating power on shipboard.

The diesel engine undoubtedly has been a means of inspiration to steam plant designers. Steam pressures and temperatures unthought of in the early years of steam navigation, are now in daily service and the trend is upward. While uneconomical in its early installations, as applied to marine practice, the steam turbine quickly demonstrated improvement in steam consumption. The introduction of intermediate gears brought the relative efficiencies of the turbine and propeller into a better balance.

One of the principal claims for the reciprocating steam engine has been its dependability—a confidence developed through several generations of engineers and owners. For the larger powers the reciprocating engine can not compete, in space occupied and steam economy, with the turbine; but recently added features have placed the reciprocating engine for moderate powers in a very favorable position. The reciprocating steam engine, with its known economies in steam consumption and improvements in design, can compete successfully with other prime movers

The application of the Lentz standard marine high temperature engine with poppet valves has resulted in a marked increase in steam economy. This unit has been designed to produce an improved reciprocating steam engine, lighter in weight and of smaller dimensions for equivalent power, combining at the same time a greater efficiency with a comparatively low initial cost made possible by standardization. It is a double compound engine in which two units, arranged in juxtaposition, work on a shaft having four cranks. The high pressure cranks are set at right angles to each other, and the respective low pressure cranks are at 180 degrees with the adjacent high pressure cranks; thus the engine starts at any position without the aid of special starting gear.

Lentz standard marine engines are designed in seven sizes, from 400 indicated horsepower to 5000 indicated horsepower, suitable for all types of steam vessels from tug, ferry and trawler to high powered freight steamers and twin screw passenger liners. This engine is designed to operate with steam pressures of approximately 200 pounds per square inch, with steam temperatures up to 600-615 degrees Fahr. and vacuum 90-92 per cent. Under the designed steam pressures and temperatures the Lentz engine has a recorded fuel consumption in service of 1.01 pounds to 1.1 pounds per indicated horsepower per hour with coal, and .77 pound to .84 pound with oil, the consumption varying slightly with the power developed. The steam consumption of the condensing auxiliaries is included in the figures quoted. Operating the Lentz engine in conjunction with a low pressure exhaust steam turbine would result in a further substantial decrease in fuel consumption for equivalent powers.

An interesting detail of this engine is the valve gear. Double beat poppet valves operated by cams are used to effect the steam distribution. One of the important advantages in this arrangement is the separation of the steam and exhaust valves which are placed on opposite sides. Being comparatively small in size, the poppet valves are arranged close to the cylinder, thus assuring a substantial reduction in clearance volumes. As the weight and frictional resistance of poppet valves is but a fraction of that offered by slide valves, the various parts of the valve gear can be materially reduced in weight. With the Lentz engine, due to the elimination of much of the friction in the moving parts, only a small amount of internal lubrication is required.

The advantages claimed for Lentz engines include; simplicity of construction; quick and sure maneuvering; high mechanical efficiency; smooth and vibrationless running; low fuel consumption; low cost of maintenance; reduced weight per indicated horsepower; and smaller space required: Up to the present time more than 300 foreign owned vessels have been fitted with Lentz engines, and fully 100 have had their overall efficiency improved by modification of the steam plant in accordance with the program designated as Lentzification.

### Modifying Existing Engines

Marked economies have been effected in the fuel consumption of ordinary reciprocating engines by "Lentzification"—that is the substitution of the high pressure cylinder for a Lentz high pressure cylinder with poppet valves, the latter operated by the existing link motion. In this conversion it is possible to use the same quantity of super-heat as that recommended for the standard Lentz engine.

Improvement has not been confined to the main engine or propelling units alone. Boilers have been developed to carry advancing pressures; engineers have sought in various ways to improve boiler efficiencies, thereby increasing the "amount of water evaporated per pound of fuel burned." In the final analysis, it is the "overall" efficiency that must be considered; the "fuel per mile" or "miles per ton" is what must appeal to the conservative owner.

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*The author, J. F. Paige, is a member of the firm of Paige & Strachan, consulting marine engineers, New York. This firm, in association with Paul Miedlich, who controls the rights for Lentz patents and "Lentzfication" in the United States, is the official representative for all marine installations and conversions.

# Late Decisions in Maritime Law

## Legal Tips for Shipowners and Officers

Specially Compiled for Marine Review
By Harry Bowne Skillman
*Attorney at Law*

IN DECIDING that the British statute and regulations, requiring load line marks on vessels leaving British ports, should be considered in determining whether a vessel so marked was overloaded on a voyage from an American port, though inapplicable thereto, the court, in the case of VESTRIS 60 F (2d) 273, set out the following interesting history of load line marks: "That vessels could only be loaded with safety to a certain depth has been known and recognized by seafaring nations for many centuries. Load line marks on vessels were established and officially recognized by the members of the Hanseatic league. Upon the dissolution of the league and the termination of its agreements for carrying on commerce between its members, recognition by one nation of another's load line marks ceased and the marking fell into disuse for a time. However, in 1875 Samuel Plimsoll, who was interested in the welfare of British seamen and owners of British cargoes, and realizing that many seamen as well as cargoes, had been lost as a result of the overloading of vessels, introduced in the British parliament in the year 1875 a bill for establishing and marking upon British vessels the point which indicates the limit to which a vessel may be safely loaded and giving to the British board of trade broad powers for the purpose of carrying out of these purposes. In 1876 the bill became a law and was included in the British merchant marine act. It was the purpose of the statute to have marks painted on the sides of the vessels indicating the point, ascertained by recognized standards, below which she could not be immersed without depriving her of a sufficient percentage of reserve buoyancy to insure her safety. In 1876 the plan of determining and indicating the load line mark or "Plimsoll" mark as it is called, came into general use in England and was followed by several other seafaring nations. The "British shipping act of 1894" required the "Plimsoll" or load line mark to be determined and placed upon all British ships sailing from British ports, and under the British "merchant shipping act of 1906 the rules were made to apply to foreign ships while in British ports "as they apply to British ships." The standard of the British board of trade relating to the determination and the affixing of the load line is the result of many years of experience, and the history of the mariners and the shipbuilders of England is one to inspire confidence in their knowledge and skill in such matters. The American bureau in assigning load line marks follows standards which are essentially like those in force in Great Britain, although it was not until September, 1930, that the United States enacted a statute relating to load line marks.

* * *

OWNER of a carfloat negligently damaged at the dock of a company which had previously notified the owner that it would not be responsible for damage could not recover against the company therefor. —Erie Railroad Co. v. Long Island Railroad Co., 59 F. (2d) 822.

* * *

INEVITABLE accident, as applied to collision cases, must be understood to mean a collision which occurs when both parties have endeavored, by every means in their power, with due care and caution, and a proper display of nautical skill, to prevent the occurrence of the accident. It is not inevitable accident where a master proceeds carelessly on his voyage, and afterwards circumstances arise, when it is too late for him to do what is fit and proper to be done. He must show that he acted seasonably, and that he did everything which an experienced mariner could do, adopting ordinary caution, and that the collision ensued in spite of such exertions.—PHILIP J. KENNY, 60 F. (2d) 457.

* * *

ADJUSTMENT in New York of general average for cargo destined for many ports on the Pacific coast was held, in the case of Kohler & Chase v. United American Lines, 60 F. (2d) 530, not improper, it appearing that the bill of lading incorporated the customs and usages of the port of New York, from which the vessel sailed, and the fact that the adjustment was made by a company other than that originally named in the average agreements was an insufficient ground of objection, as was also the fact that some cargo was valued on the basis of market value and other cargo on invoice plus 10 per cent. From the very nature of his work an average adjuster must be allowed some leeway in fixing values. With respect to the vessel market value is controlling in determining value for general average adjustment.

* * *

MEASURE of damages to cargo is difference between the market value of the goods sound and the value of the goods damaged. In admiralty the allowance of interest is discretionary.—CALEDONIER, 60 F. (2d) 562.

* * *

TUG is bound to know, not only what appears on government charts, but whatever is known to persons in the habit of navigating the waters in question, as to the depth of such waters.—SATURN, 60 F. (2d) 645.

* * *

CASE of BLUE MOON III, 60 F. (2d) 653, holds that it was the duty of an employe of a motorboat owner to warn a guest of the slippery condition of the deck, which he had recently waxed, and of the risk he was taking in coming aboard, the dangerous condition which existed not being discoverable by observation by the guest, and the said owner was liable for injuries sustained by the guest from being thrown astraddle the windshield when his feet slipped.

* * *

THOUGH somewhat greasy decks were necessarily concomitant to loading a tanker, this did not do away with the duty of the owner to use whatever care was required to prevent excessive accumulations of oil in places where they would be dangerous to a person rightfully using the deck. A seaman, off duty at the time, in returning to his room from the place where he had to go for a drink of cold water was acting within the scope of his employment, and who decides to return to his room over a deck he knows is slippery and may have oil collected in pools upon it, when he knows there is a safe though somewhat longer way for him to return, must be held to have assumed the known and obvious risks incident to his voluntary choice.—Holm v. Cities Service Transportation Co., 60 F. (2d) 721.

# Marine Business Statistics Condensed

## Record of Traffic at Principal American Ports for Past Year

### New York

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 254 | 1,416,857 | 245 | 1,383,630 |
| December | 244 | 1,307,332 | 253 | 1,387,341 |
| November | 227 | 1,154,961 | 232 | 1,179,988 |
| October | 253 | 1,379,283 | 244 | 1,328.561 |
| September | 258 | 1,634,448 | 266 | 1,658,521 |
| August | 287 | 1,754,583 | 270 | 1,636,803 |
| July | 238 | 1,483,476 | 254 | 1,553,215 |
| June | 267 | 1,579,970 | 277 | 1,650,915 |
| May | 277 | 1,484,116 | 259 | 1,392,451 |
| April, 1932 | 270 | 1,506,696 | 277 | 1,515,147 |

### Philadelphia

(Including Chester, Wilmington and the whole Philadelphia port district)
(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 53 | 154,823 | 41 | 142,216 |
| December | 44 | 141,426 | 37 | 116,120 |
| November | 54 | 154,796 | 41 | 130,250 |
| October | 57 | 167,539 | 42 | 115,660 |
| September | 45 | 123,049 | 36 | 99,766 |
| August | 64 | 175,530 | 43 | 113,901 |
| July | 49 | 130,439 | 38 | 85,956 |
| June | 55 | 157,399 | 36 | 102,354 |
| May | 66 | 205,184 | 46 | 142,889 |
| April, 1932 | 55 | 165,646 | 51 | 159,427 |

### Boston

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 97 | 329,575 | 56 | 211,428 |
| December | 98 | 300,132 | 64 | 241,693 |
| November | 88 | 308,164 | 59 | 220,950 |
| October | 99 | 332.754 | 68 | 249 150 |
| September | 114 | 337,608 | 91 | 283,227 |
| August | 117 | 369,799 | 103 | 339,775 |
| July | 121 | 408,896 | 101 | 346,926 |
| June | 116 | 342,057 | 95 | 322,558 |
| May | 125 | 294,093 | 97 | 257,608 |
| April, 1932 | 103 | 308,951 | 72 | 215,237 |

### Portland, Me.

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 14 | 35,038 | 13 | 34,153 |
| December | 17 | 43,705 | 16 | 40,396 |
| November | 7 | 9,785 | 6 | 10,174 |
| October | 8 | 21.407 | 7 | 18.228 |
| September | 9 | 14,698 | 9 | 16,526 |
| August | 14 | 25,844 | 14 | 24,208 |
| July | 9 | 15,156 | 10 | 17,733 |
| June | 10 | 25,895 | 11 | 26,519 |
| May | 14 | 26,484 | 14 | 29,669 |
| April, 1932 | 10 | 22,911 | 10 | 24,483 |

### Providence

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| December, 1932 | 3 | 7,918 | 2 | 8,820 |
| November | 4 | 13,673 | 3 | 11,066 |
| October | 3 | 13.133 | 3 | 9 683 |
| September | 3 | 11,450 | 4 | 14,471 |
| August | 5 | 13,418 | 1 | 5,071 |
| July | 2 | 5,918 | 2 | 9,634 |
| June | 7 | 22,359 | 3 | 7,151 |
| May | 7 | 24,204 | .... | ..... |
| April | 4 | 17,438 | 3 | 13,515 |
| March, 1932 | 8 | 35,293 | 5 | 24,289 |

### Portland, Oreg.

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 24 | 95,271 | 33 | 138,372 |
| December | 22 | 92,267 | 41 | 166,858 |
| November | 19 | 78,628 | 41 | 157,544 |
| October | 25 | 98.792 | 45 | 182,167 |
| September | 25 | 98,370 | 37 | 146,945 |
| August | 22 | 93,256 | 32 | 127,572 |
| July | 21 | 84,961 | 24 | 99,035 |
| June | 20 | 80.272 | 25 | 98.356 |
| May | 20 | 82.750 | 25 | 99.862 |
| April, 1932 | 23 | 83,171 | 28 | 104,796 |

### Baltimore

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 77 | 247,903 | 78 | 252,052 |
| December | 75 | 238,598 | 68 | 224,544 |
| November | 80 | 264,047 | 83 | 262,796 |
| October | 98 | 281,907 | 94 | 281,534 |
| September | 66 | 190,459 | 80 | 241,287 |
| August | 88 | 243,077 | 87 | 245,091 |
| July | 88 | 255,354 | 86 | 255,209 |
| June | 95 | 299,502 | 97 | 294,264 |
| May | 95 | 289,042 | 102 | 317,751 |
| April | 108 | 346,276 | 114 | 377,317 |
| March, 1932 | 96 | 288,052 | 105 | 319,511 |

### Norfolk and Newport News

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 20 | 58,470 | 33 | 76,493 |
| December | 28 | 77,286 | 38 | 92,621 |
| November | 20 | 54,678 | 35 | 79,516 |
| October | 15 | 60.775 | 36 | 80,792 |
| September | 26 | 74,483 | 53 | 118,437 |
| August | 25 | 53,025 | 37 | 86,952 |
| July | 23 | 72,755 | 36 | 91,332 |
| June | 18 | 51,803 | 48 | 114,222 |
| May | 24 | 52,049 | 43 | 112,672 |
| April, 1932 | 22 | 59,932 | 33 | 77,515 |

### Jacksonville

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 3 | 4,683 | 8 | 21,018 |
| December | 10 | 24,067 | 10 | 24,595 |
| November | 10 | 24,352 | 2 | 1,799 |
| October | 8 | 16,714 | 8 | 13,659 |
| September | 7 | 15,879 | 7 | 12,539 |
| August | 8 | 14,142 | 9 | 16,647 |
| July | 8 | 20,558 | 7 | 16,963 |
| June | 7 | 12,746 | 10 | 20,277 |
| May | 12 | 33,157 | 8 | 20,489 |
| April, 1932 | 9 | 17,886 | 9 | 21,812 |

### Key West

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 38 | 55,322 | 38 | 54,692 |
| December | 38 | 59,058 | 39 | 58,604 |
| November | 37 | 64,384 | 37 | 61,961 |
| October | 35 | 62.394 | 35 | 62,394 |
| September | 36 | 60,309 | 36 | 61,405 |
| August | 37 | 66,432 | 37 | 66,313 |
| July | 38 | 62,503 | 40 | 62,486 |
| June | 37 | 61,115 | 39 | 76,274 |
| May | 56 | 76,236 | 55 | 76,070 |
| April, 1932 | 55 | 77,443 | 50 | 80,778 |

### Mobile

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 100 | 232,451 | 91 | 201,671 |
| December | 86 | 204,295 | 92 | 209,061 |
| November | 94 | 210,195 | 97 | 234,590 |
| October | 105 | 228,041 | 105 | 233.510 |
| September | 89 | 166,896 | 96 | 193,213 |
| August | 90 | 196,453 | 88 | 188,375 |
| July | 107 | 222,810 | 99 | 203,444 |
| June | 91 | 207,178 | 93 | 201,443 |
| May | 102 | 212,215 | 97 | 198,871 |
| April, 1932 | 102 | 192,617 | 104 | 202,965 |

### Seattle

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 50 | 212,954 | 49 | 210,083 |
| December | 45 | 202,731 | 47 | 207,521 |
| November | 43 | 193,580 | 45 | 200,513 |
| October | 53 | 235.224 | 58 | 251,334 |
| September | 40 | 168,740 | 40 | 175,635 |
| August | 39 | 183.141 | 36 | 167,807 |
| July | 32 | 145,560 | 36 | 162,923 |
| June | 36 | 160,585 | 32 | 143,574 |
| May | 43 | 184.393 | 41 | 170,652 |
| April, 1932 | 40 | 171,346 | 43 | 191,352 |

### New Orleans

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 135 | 307,750 | 145 | 410,412 |
| December | 151 | 434,935 | 157 | 450,545 |
| November | 146 | 442,427 | 156 | 457,621 |
| October | 140 | 403,062 | 150 | 424,621 |
| September | 151 | 423,791 | 139 | 415,704 |
| August | 160 | 448,826 | 156 | 442,655 |
| July | 166 | 438,496 | 171 | 448,198 |
| June | 170 | 597,552 | 164 | 457,960 |
| May | 182 | 517,523 | 169 | 472,154 |
| April | 192 | 558,631 | 194 | 559,824 |
| March, 1932 | 200 | 604,269 | 196 | 589,805 |

### Charleston

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 28 | 83,545 | 23 | 65,063 |
| December | 24 | 58,943 | 24 | 63,086 |
| November | 33 | 93,457 | 30 | 85,072 |
| October | 14 | 33,693 | 12 | 34,625 |
| September | 21 | 54,638 | 20 | 52,035 |
| August | 15 | 29,293 | 18 | 46,756 |
| July | 17 | 39,628 | 14 | 39,844 |
| June | 26 | 80,438 | 25 | 78,864 |
| May | 29 | 80,415 | 27 | 71,288 |
| April, 1932 | 21 | 53,404 | 21 | 57,341 |

### Galveston

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| December, 1932 | 24 | 39,491 | 103 | 311,999 |
| November | 29 | 64,016 | 102 | 314,452 |
| October | 26 | 54.231 | 94 | 277,977 |
| September | 25 | 38,083 | 85 | 236,532 |
| August | 29 | 44,389 | 71 | 202,598 |
| July | 27 | 50,302 | 79 | 220,489 |
| June | 28 | 47,046 | 81 | 226,542 |
| May | 38 | 84,468 | 86 | 259,026 |
| April | 44 | 97,609 | 106 | 297,282 |
| March | 32 | 61,079 | 109 | 319,013 |
| February, 1932 | 27 | 64,866 | 101 | 317,095 |

### Los Angeles

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 162 | 633,944 | 169 | 668,576 |
| December | 152 | 538,392 | 156 | 560,901 |
| November | 194 | 645,826 | 195 | 662,569 |
| October | 209 | 641,131 | 201 | 657,641 |
| September | 223 | 581,402 | 222 | 610,443 |
| August | 253 | 653.836 | 244 | 635,164 |
| July | 226 | 646,417 | 230 | 617,947 |
| June | 168 | 588,184 | 162 | 558,945 |
| May | 229 | 691,109 | 164 | 650,539 |
| April, 1932 | 189 | 617,325 | 222 | 635,301 |

### San Francisco

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 154 | 672,230 | 147 | 657,934 |
| December | 135 | 608,843 | 170 | 579,362 |
| November | 154 | 672,184 | 152 | 655,379 |
| October | 147 | 669 637 | 166 | 727,969 |
| September | 136 | 608,268 | 153 | 667,866 |
| August | 152 | 640,952 | 162 | 702,483 |
| July | 148 | 687,695 | 142 | 655,436 |
| June | 133 | 588,465 | 132 | 590,158 |
| May | 154 | 669,735 | 152 | 649,509 |
| April, 1932 | 146 | 663,647 | 144 | 613,085 |

### Houston

(Exclusive of Domestic)

| Month | —Entrances— No. ships | Net tonnage | —Clearances— No. ships | Net tonnage |
|---|---|---|---|---|
| January, 1933 | 19 | 72,798 | 33 | 110,421 |
| December | 13 | 45,319 | 30 | 95,323 |
| November | 22 | 86,895 | 28 | 106,050 |
| October | 21 | 81 274 | 37 | 136,509 |
| September | 23 | 103,424 | 33 | 121,134 |
| August | 11 | 47.148 | 32 | 116,860 |
| July | 17 | 66,968 | 20 | 87,589 |
| June | 20 | 93,807 | 31 | 119,752 |
| May | 29 | 122.192 | 36 | 149,039 |
| April, 1932 | 31 | 131,585 | 39 | 155,861 |

Note: The figures given in this table are for direct entrances and clearances. Additional vessels in foreign trade enter and clear from and to other American ports after original entry and before final departure. At the port of Philadelphia, for instance, additional vessels in the foreign trade in this category were 58 of 201,246 net tons entered and 60 of 205,622 net tons cleared for the month of January.

# Latest Data on New Marine Work

## Information on New Ships Ordered—Building and Repair Contracts Let—Shipping Board Loans Made, Authorized or Pending

EARLY in February, Lord Stanley, parliamentary secretary for the admiralty, is reported to have told a shipbuilding deputation that the British admiralty is building ships to the maximum of Great Britain's allowance under the Washington treaty. Contracts for three large cruisers of the 1931 program were recently awarded and orders for the 1932 cruiser program were to be awarded at an early date.

## Status of New Cunarder

Persistent reports have come from England that work on the giant Cunard liner known as No. 534, now in partly completed condition on the stocks at John Brown's shipyard, Clydebank, Scotland, will be resumed early in March. If the reports prove to be correct and all goes well, she will be launched this coming September.

The report, which is denied by the shipyard, is based on the assertion that negotiations have been under way between Walter Runciman, president of the board of trade and member of the British cabinet, and officials of the Cunard line. Results of these negotiations were to be communicated to parliament on Feb. 23. David Kirkwood, member of parliament for Clydebank, is reported to have made a public statement to the above effect, and he has also indicated hopefulness that a second Cunarder will be commenced when the first is launched. He has expressed the opinion that Clydebank will be the busiest shipbuilding place in the world before the year ends.

On the other hand, the shipyard, though hopeful of an early resumption of work, does not know of any agreement between the owner and the British government. The yard's information as this is written was that no decision had yet been reached.

## Bids for New Tender

Bids for the construction of a new lighthouse tender for service on the Great Lakes were opened Feb. 15 in the office of the commissioner of lighthouses, of the department of commerce. The Great Lakes Engineering Works, River Rouge, Mich., was the lowest bidder with a price of $66,566.

This vessel to be known as the DAHLIA, is to replace the tender THISTLE, now unfit for further service. It will be a steel vessel, eighty-one feet long, propelled by diesel machinery.

## Order Steel Coal Barges

Marietta Mfg. Co., Point Pleasant, W. Va., recently was awarded a contract by the West Kentucky Coal Co., Paducah, Ky., for the construction of ten standard steel coal barges, each of 1000 tons capacity and size of 175 x 26 x 11 feet. For the construction of these barges, approximately 1500 tons of steel are required.

Recently the company took a contract for the construction of a 50,000-gallon steel oil barge for the Sterling Oil Co., St. Marys, W. Va., this barge to be 84 x 20 x 5.

Aside from this private work, the company also has under construction two floating boat houses for the United States engineers, Huntington, W. Va., and are making repairs to the No. 27 maneuverboat for the Huntington engineers. In addition, the Marietta Mfg. Co. is over-hauling the United States snagboat KENTUCKY for the Cincinnati engineers.

## Order British Freighters

The Furness Shipbuilding Co. Ltd. early in February received orders for three cargo vessels. One of these vessels of 7000 tons carrying capacity is to be built on the new "arc-form" system of design proposed by Sir Joseph Isherwood and described in detail elsewhere in this issue. This vessel will be fitted with steam reciprocating machinery. The other two ships, each of 9000 tons deadweight, are designed for fast cargo services and will be fitted with diesel engines. Speed is to be from 13 to 14 knots.

It is thought that the two latter vessels are for the Pacific coast trade of Sir William Reardon Smith & Sons Ltd. These orders, it is felt, indicate a definite return of interest on the part of shipowners in building new tonnage. An optimistic statement along this line was recently made by Walter Runciman, president of the board of trade. He pointed out that early in February there were 200,000 tons less of shipping laid up than at the same time a year ago, and also that recent orders for new ships showed that shipowners are looking ahead.

Another important factor is that these new ships will incorporate the latest engineering advances and will thus enable their owners to compete successfully with others possessing really modern ships. Mr. Runciman said, "It may be the cause of a great revival in our shipping trade which will open up a new boom for industry in this country."

The United States Engineer office of Vicksburg, Miss., has asked for bids which were to be opened Feb. 24, for the construction and delivery afloat at Vicksburg of one, 120 x 30 x 7-foot steel oil barge.

Sun Shipbuilding & Dry Dock Co., Chester, Pa., was the successful bidder and was awarded contract for repair to seven federal dredges. The total bid was $99,643.

## Peten's Sea Trials Held

Trial trip of the United Fruit Co.'s new turbo-electric liner PETEN, built by the Newport News Shipbuilding & Dry Dock Co., was held Feb. 15 and was satisfactory in every respect. The liner developed a speed of approximately 20 knots and responded satisfactorily to her speed test, backing tests, anchor and steering tests.

On account of foggy weather, she left the yards of the Newport News Shipbuilding & Dry Dock Co. at 10 a. m. instead of 5 a. m. and returned at 7 p. m., having steamed sixty miles outside the Chesapeake Light ship.

J. J. Kelleher, general traffic manager and H. H. Robson, general manager of the marine department represented the United Fruit Co. on this trial.

## Tender Wistaria Launched

The lighthouse tender WISTARIA, which is being built for service in the waters of Delaware river and Delaware bay, was launched Feb. 3 at the Staten Island, N. Y., yard of the United Dry Docks Inc. At the time of launching the tender was over 55 per cent complete. The vessel is scheduled for delivery by March 30.

The WISTARIA will replace the small wooden tender WOODBINE, and is a diesel electric propelled steel vessel, designed specially for the work, embodying many improvements. When completed, this vessel will be used in the construction of new navigational aids, and in servicing the lights and buoys.

## Liner Santa Lucia Sails On Maiden Voyage

The SANTA LUCIA, third of the four new sister ships built for the Grace line fleet, sailed from New York under command of Capt. Walter N. Prengel Feb. 17, on her maiden trip to Havana, Colombia, Panama, El Salvador, Guatemala, Mexico, California, British Columbia, and Washington.

This newest Grace liner—following the example set by her two sister ships, the SANTA ROSA and SANTA PAULA—sailed from Pier 95, North River with a full passenger list, having been completely booked for several weeks—convincing evidence of the popularity of American-built ships.

To meet the increased demand for passenger and freight accommodations, weekly sailings from New York and California will be inaugurated with the sailing of the SANTA LUCIA.

The SANTA LUCIA and her sister ships are among the first ocean liners to have spacious sea garages and side ports large enough to permit passengers to drive their cars aboard. Twelve cars were driven aboard the SANTA LUCIA by passengers who wish to use their own cars for motor trips on the coast. The automobiles are parked in the garage where they are made fast to the deck by special devices that hold them secure during the voyage. At their destination they are driven off the ship.

A complete illustrated description of the SANTA ROSA, first of these sister ships appeared in December issue of MARINE REVIEW.

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The Ohio river screw propeller steamer VESTA made a fast trip from Pittsburgh to Memphis, Tenn., with a cargo of steel products in tow. The steamer averaged approximately 14 miles an hour on the 1200-mile voyage.

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## Tender Hickory Launched

The lighthouse tender HICKORY, was launched at the yard of the Bath Iron Works Corp., Bath, Me., on Feb. 9. She will replace the tender PANSY, worn out in service, and is a shallow draft vessel designed specially for the building of light structures and the tending of buoys in the rivers, inlets, and other shallow waters of the Long Island sound area.

The HICKORY was nearly complete when launched, as covered ways at the builder's yard made possible uninterrupted work on the vessel regardless of weather conditions. The engines and boilers have been installed, and the work now remaining to be done is expected to be completed within a short time. The lighthouse service will take delivery of the vessel at Staten Island, N. Y., probably during March, and she will be placed in service in time for the usual rush of spring work.

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## Ile de France Improvements

Extensive improvements are being made on the ILE DE FRANCE. Cabins are being enlarged, and many baths added. Each room will be equipped with a telephone. The smoking room is being entirely done over. The French line flagship will return to service on her New York-Plymouth-Havre run in April, after a five-months lay-up for a thorough general overhauling and elaborate alterations in many respects a better ship.

Having enjoyed an unprecedented popularity since her maiden voyage in June, 1927, up to the present time, the ILE DE FRANCE had been in constant operation for over five years, with only an occasional brief rest for the most general kind of overhauling. It was therefore decided, some months ago, to take her out of service after the 1932 season, and lay her up for sufficient time to allow for alterations and improvements to be carried out.

Ever since her entry into service, the ILE DE FRANCE has enjoyed a greater share of the first class transatlantic business according to her capacity than any other ship, her records showing that, trip for trip, a greater percentage of her first class carrying capacity is sold than on any other de luxe liner. The improvements now bebing made will make her, one of the finest and most luxurious modern liners.

## Philadelphia Line Proposed, to Use Four Ships

A number of citizens of Philadelphia appeared before the shipping board on Feb. 3 to urge the board's approval of the application of the Philadelphia Mail Steamship Co. to establish, with four of the Hog Island B type vessels sold to the United States Lines Co., a direct service from Philadelphia to Manchester and Liverpool including the ports of Baltimore and Hampton Roads. Representatives of congress were included in the supporters of the Philadelphia application.

The board has taken the matter under advisement. The vessels desired are presently laid up by the United States Lines Co. having originally been sold by the board to that company to operate in the guaranteed service between New York and London.

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## Cruiser Portland Delivered

Delivery was made on Feb. 15 of the new 10,000-ton cruiser PORTLAND built at the Fore River plant of the Bethlehem Shipbuilding Corp., Quincy, Mass.

Contract for the construction of this vessel was awarded Aug. 15, 1929, and she is the second "treaty cruiser" to be completed since the London naval conference. Her keel was laid Feb. 17, 1930, and she was launched May 21, 1932.

The PORTLAND is 610 feet 3 inches long, 66 feet 1 inch in beam and 36 feet deep. She has four propellers driven by turbine reduction geared machinery having a total shaft horsepower of 107,000. Her designed speed is 32½ knots and she carries nine 8-inch guns, eight 5-inch guns and eight anti-air craft machine guns. Accommodation in a protected space is provided for two airplanes.

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The Nippon Yusen Kaisha Co. is planning to build four 7500 tons diesel freighters with a speed of 17 to 18 knots for operation in the service of this line between Japan and New York

## Bunker Prices

### At New York

| | Coal Alongside per ton | Fuel oil alongside per barrel | Diesel engine oil alongside per gallon |
|---|---|---|---|
| Feb. 18, 1933 | 4.30@4.60 | .80 | 4.08 |
| Jan. 17 | 4.50@5.00 | .80 | 4.08 |
| Dec. 16 | 4.50@4.75 | .80 | 4.75 |
| Nov. 18 | 4.50@4.75 | .80 | 4.08 |
| Oct. 18 | 4.50@5.00 | .80 | 4.08 |
| Sept. 18 | 4.50@5.00 | .80 | 4.08 |
| Aug. 18 | 4.50@5.00 | .90 | 4.08 |
| July 18 | 4.50@5.00 | .90 | 4.04½ |
| June 18 | 4.50@5.00 | .80 | 3.70 |
| May 18 | 4.50@5.00 | .75 | 3.70 |
| April 18, 1932 | 4.50@5.00 | .70 | .... |

### At Philadelphia

| | Coal trim in bunk per ton | Fuel oil alongside per barrel | Diesel engine oil alongside per gallon |
|---|---|---|---|
| Feb. 18, 1933 | 4.30@4.60 | .80 | 4.04 |
| Jan. 17 | 4.50@5.00 | .80 | 4.04 |
| Dec. 16 | 4.00@4.75 | .80 | 4.04 |
| Nov. 18 | 4.00@4.75 | .80 | 4.04 |
| Oct. 18 | 4.50@5.00 | .80 | 4.04 |
| Sept. 18 | 4.50@5.00 | .80 | 4.04 |
| Aug. 18 | 4.50@5.00 | .90 | 4.04 |
| July 18 | 4.50@5.00 | .90 | 4.08 |
| June 18 | 4.50@5.00 | .80 | 3.69 |
| May 18 | 4.50@5.00 | .80 | 3.69 |
| April 18, 1932 | 4.50@5.00 | .75 | 3.21 |

### Other Ports

Feb. 18, 1933

| | |
|---|---|
| Boston, coal, per ton | $7.10 |
| Boston, oil, f. a. s. per barrel | $0.76 |
| Hampton Roads, coal, per ton, f.o.b. piers | $4.25 to $4.50 |
| Cardiff, coal, per ton | 14s 0d |
| London, coal, per ton | —s —d |
| Antwerp, coal, per ton | 16s 9d |
| Antwerp, Fuel oil, per ton | 67s 6d |
| Antwerp, Diesel oil, per ton | 82s 6d |
| British ports, Fuel oil | 67s 6d |
| British ports, Diesel oil | 82s 6d |

# Equipment Used Afloat and Ashore

## Nickel-clad Steel—Stainless Steels—Water Softener—Arc Welder—Electrode—Cork Applications—Cargo & Warping Winch—Oil Heater

NICKEL-CLAD steel is a hot rolled bi-metal made up of a light layer of pure, solid nickel bonded to a heavy layer of flange quality steel. The nickel layer, which can be of variable thickness as desired up to 20 per cent of the total plate thickness, provides the corrosion resistance and other advantages of pure, solid nickel construction without prohibitive price in heavy units of equipment. This duplex steel is a joint development of the International Nickel Co. and Lukens Steel Co., and is produced in the latter company's mills at Coatesville, Pa.

Up to the present time, nickel-clad steel has been available only in one regular hot rolled finish, the nickel surface of which carries the tightly adherent nickel oxide film, dark olive brown in color. This nickel oxide finish is formed during the rolling of the bi-metal at high temperatures, and is somewhat similar to the finish on standard hot rolled steel plates. While this type of finish, due to the excellent corrosion resistant properties of the nickel oxide itself, will continue to be produced, a new and finer finish is now available.

With the new finish, classified as "hot rolled and cleaned," nickel-clad steel is free from the brown nickel oxide on the nickel side. The cleaning process gives the nickel a neat appearance nearly white in color, with surface superior to that produced by standard plate mill practice. This "hot rolled and cleaned" finish, however, should not be confused with the bright, lustrous surface of cold rolled and full finished solid nickel sheet, where refinement is obtained by cold rolling.

Nickel-clad steel is also now available in rectangular plates and circles in a wider range of sizes.

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## Use of Stainless Steels

UNDOUTEDLY the best known and most widely used of the alloy steels are the comparatively large group of chromium and chromium-nickel steels generally called stainless steels. These steels contain from 12 to 20 per cent chromium, with or without additional alloying elements. Of these, the 18 per cent chromium, 8 per cent nickel steel is probably the most widely used at the present time.

Stainless steels are particularly well adapted for use in resisting atmospheric corrosion, attack from oxidizing agents, and scaling at elevated temperatures. Because of their good physical properties and broad range corrosion resistance, they are continually finding new uses in place of ordinary steel and cast iron. These alloy steels are employed in practically every branch of industry; and in certain fields their excellent characteristics have brought them into special prominence.

The potential field of application in shipbuilding is enormous, stainless steels being used for fittings and parts subject to the action of salt air, spray and immersion in sea water. In the marine field, stainless steels, due to their corrosion-resistant properties, are also particularly suitable for use where a permanent, silvery finish is desired in exposed locations on deck and in quarters.

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## Automatic Water Softener

A NEW fully automatic industrial zeolite water softener has been developed by The Permutit Co. New York. This softener eliminates errors due to the human element and conducts all operations of softening and regeneration with machine-like regularity and precision.

By a clever combination of a meter operated switch and electric controls with a motor driven Permutit single valve, each operation of the water softener is under control so that the highest efficiency results. The meter actuates the electrical controls which carry through the following steps: Cutting the softener out of operation. backwashing it for a regulated period for thorough cleansing; admitting a carefully regulated amount of saturated salt brine for thorough regeneration without wastage of salt; rinsing out the hardness salts with a minimum amount of rinse water; and throwing the softener back into service under control of the meter, which governs the volume of water to be softened and initiates the start of the next regenerating cycle.

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## Lever Operated Controls

FOR use under severe weather or atmospheric conditions—a new line of master stations has been developed by Cutler-Hammer, Inc., Milwaukee, Wis., manufacturer of electric control apparatus. Radically different from the usual master station, the new type is operated from levers placed on the side of the case, instead of from push buttons.

It is claimed that by this unusual construction, an absolutely watertight case is secured. The shafts of the levers operate through stuffing boxes, and the cover joint is sealed by a rubber gasket.

The stations use standard, heavy-duty, push button elements, mounted on removable individual molded bases, fully enclosed.

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## New Type of Arc Welder

INCREASING welding efficiency and speed at reduced cost is the modern demand. New high speed processes are changing welding practice. Old time methods are being abandoned and old time equipment is being discarded in the interest of efficiency and economy.

To meet this demand the Harnischfeger Corp. Milwaukee, Wis., has improved and revised its line of arc welders. A new magnetic bridge, and a unique short circuit winding have greatly extended the welding range, and further improved arc recovery and arc stability. The new dead front control cabinet further simplifies the design. Volt meter, ammeter, etc., are contained in the single, compact cabinet.

Single operator electric motor driven types of arc welders are produced in 100, 200, 300, 400, 600 and 800 ampere sizes. Variants in stationary and portable types are designed to operate on either alternating or direct current. Up to 300 ampere size units have the motor and generator mounted as a single unit to form a compact two bearing machine. The larger sizes are four bearing units, the generator and motor are direct coupled and mounted on a welded steel base.

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## Electrode for Manganese

A NEW coated electrode for manganese welding has been developed by the General Electric Co. The new wire finds its principal application in the building up of worn manganese steel castings to original dimensions and in the repair of such fractured parts. It also can be readily applied to obtain a manganese steel surface on parts of ordinary steel and iron, thereby giving the parts a tough, work-hardening, wearing surface at a low cost.

## Characteristics of Cork, and Marine Applications

ALTHOUGH cork products are widely used in marine work, the origin of this unique material may be somewhat of a mystery even to many in the maritime industry who have used cork in one form or another for years. The following description of its nature and practical application was prepared by the Armstrong Cork Co., Lancaster, Pa.

Cork is made up of mililons of tiny cells, each filled with air. The cell walls are composed of thin but very strong tissues of cellulose. The cells are held together with a sort of natural gum or resin. Fifty-three per cent of the total cork volume is air, which accounts for its buoyancy and lightness. This structure, and its composition of almost pure cellulose and air, explains the resilience of cork and its compressibility, its low absorption of liquids, and its resistance to the passage of heat.

Cork's low heat conductivity makes it an ideal insulating material. Corkboard insulation is made of pure clean granules of cork compressed in molds and baked. The baking process liquifies the natural gum and so cements the granules in a solid mass without any foreign binder.

Between 50 and 60 per cent of the world's annual stripping of corkwood is used for insulation purposes. Much of this corkboard insulation is used to protect cargoes of foodstuffs and other perishable commodities transported in ships. Corkboard insulation also is used in ships, particularly below the waterline, to prevent condensation.

Cork covering for cold pipes supplements the insulation in board form. The cork granules are compressed and baked in molds of the necessary shapes and sizes to cover standard pipes and fittings. By insulating the pipes which convey the refrigerant such as brine, ammonia, etc., 85 per cent of the refrigeration is saved that would be lost if the pipes were left bare.

Cork also is used in the manufacture of the insulating brick used to reduce heat leakage in boilers.

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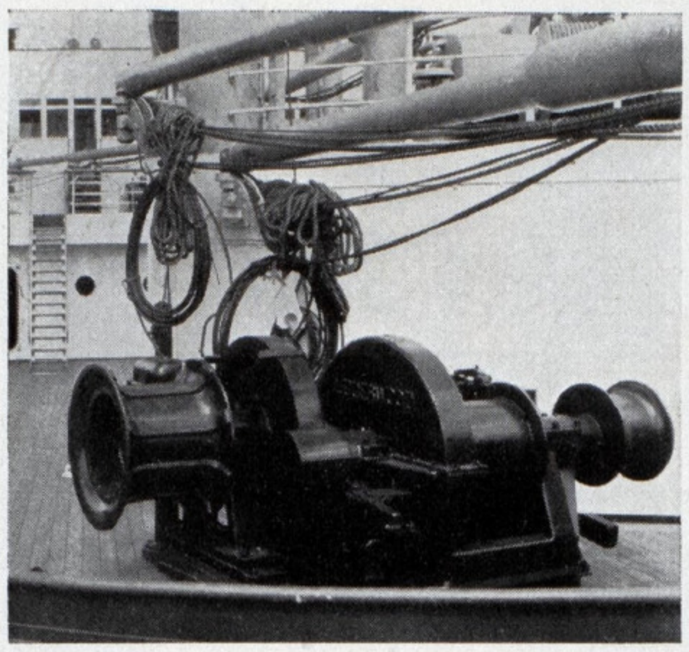
## Cargo Handling, Warping

THE S. S. MANHATTAN has a novel feature in two of her cargo winches. These winches are made to serve as warping winches when a gear shifting lever is placed in the slow speed position. The movement of the lever actuates a waterproof control switch which, in turn, changes the circuit of the magnetic panel below deck to suitable performance for warping duty. The winch will exert a pull of 10,000 pounds at a rope speed of 80 feet per minute and a pull of 20,000 pounds at 65 feet per minute when set for warping.

The control switch that is automatically operated when the lever is moved from the position for cargo winch performance to that for warping performance adds the usual step back or jamming feature and also make ineffective the *lowering* side of the master switch. The *hoisting* portion only of the cargo winch performance is made available for warping duty. In order to pay out rope, the lever must be thrown for cargo winch performance in which case a choice of speeds range from 5 to 250 per cent of the rated speed.



*Cargo Handling or Warping*

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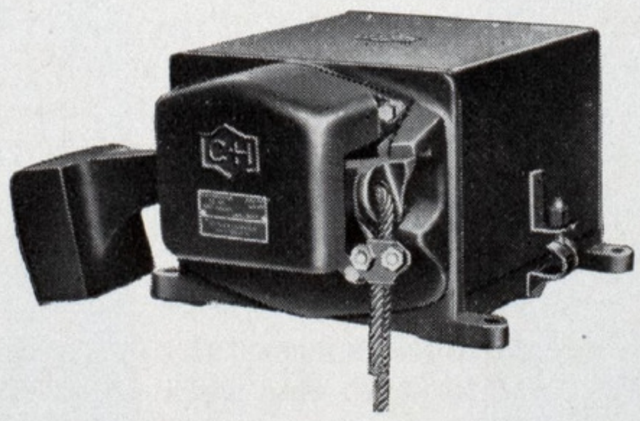
## Small Size Limit Stop

A NEW small size crane limit safety stop, with standard mill type blowouts and contact tips, has been developed by Cutler-Hammer, Inc., Milwaukee, Wis. These stops are used to prevent over-travel of the hoist on electric cranes.

Rated for 40 horsepower and under, it is claimed the new stop is unusually small and compact for this rating, taking only 9-inch head room. The stop is supplied complete with leads equipped with soldering lugs. The cover is removable for inspections and repairs.



*Small Size Crane Limit Stop*

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The new 14,800 liner, PRESIDENT DOUMER, was launched at the shipyard of the Messageries Maritime at Marseilles, France, on Jan. 22.

## Unique Heating Elements In New Oil Heater

A STORAGE tank oil heater recently developed by The Griscom-Russell Co., New York, has a unique type of heating element which makes the unit particularly compact, effective and economical.

The patented G-fin heating elements in this apparatus consist of a number of U-shaped steel pipes having longitudinal fins along the exterior surface of the straight portions of each pipe. These fins are equally spaced about the circumference of the pipe, and are securely fastened by a mechanical process without tinning or similar bond which would limit the operating temperature.

The purpose of the longitudinal fins is to increase the heat-transmitting surface on the outside of the pipes in contact with the oil to be heated for withdrawal from the tank. The total surface of the fins on each pipe is from 4 to 6½ times greater than that of a bare pipe of the same length and diameter, so that the cold viscous oil is heated sufficiently to flow readily in a fraction of the time required by a bare tube heater of the same dimensions. Therefore, this design permits a more compact and economical unit for a given heating duty.

This unit is also more economical in steam consumption than pipe coils located in the bottom of the tank because it heats the oil locally at the point of withdrawal from the tank.

The heater is installed with the shell and heating elements extending into the tank and the steam, drain and oil connections outside the tank. Special provisions in the design of the unit facilitate flow of oil into and out of the shell. No cross baffles are necessary in the shell, thereby resulting in minimum pressure drop of the oil. The construction of the unit throughout is simple, sturdy and leakproof.

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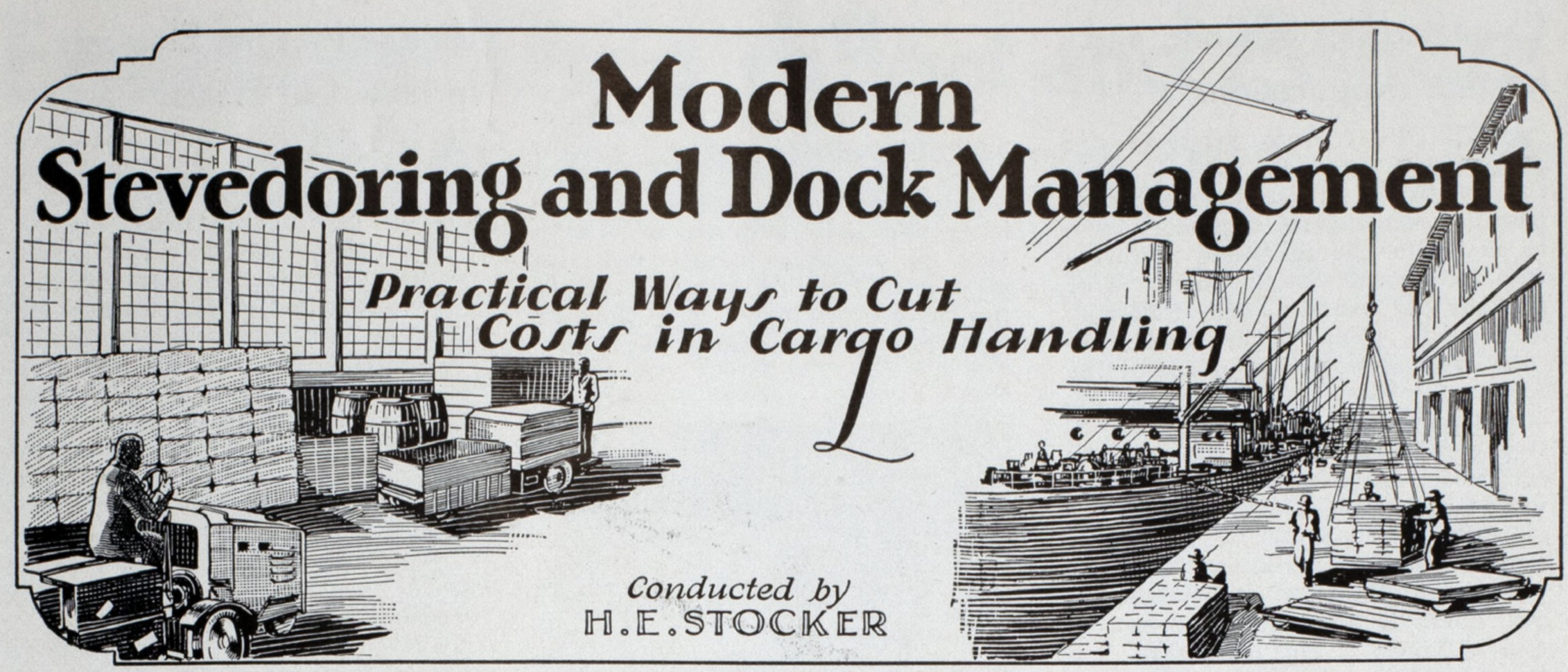
## Ejector Refrigeration

THERE was recently tested at the South Philadelphia works of the Westinghouse Electric & Mfg. Co., a piece of refrigerating equipment of large capacity using steam ejectors to produce the cooling effect. In this test a tank of several hundred gallons of water at room temperature was frozen to a slush ice in a few minutes, indicating the great effectiveness of this type of equipment.

Except for some small pumps, there was no rotating apparatus in this equipment, and the complete unit was simple and relatively small in size. The ejector itself was developed by Westinghouse engineers from those used in connection with condensers for large steam turbines which this company has built for many years.




# Cargo Handling Facilities at Seattle For Grace Line Steamers

By H. E. Stocker

THE new Grace line ships operate on such a short schedule at Seattle, that exceptional dispatch is necessary. The ships arrive Saturday 3:00 p.m. and sail Monday 10:00 a.m. The problem of the management was to handle incoming and outgoing cargo to the two story shed in the Bell street terminal, in the fastest and most economical manner. The tidal range at Seattle required that the equipment should be able to work into and out of side ports, a maximum of 16 feet below dock level and a rise of 8 feet above dock level.

A partial plan of the Bell street terminal is shown in the illustration on page 32. This terminal includes an apron 20 feet wide with a railroad track. This track had to be available for car movements when the ships were not working the side ports. A survey and report by J. R. West, chief engineer of the port commission, was adopted by the commission on Oct. 25. This report required moving two Barlow marine elevators that were installed on this pier in 1914 to the new locations to match up with No. 1 and No. 3 side ports. It also meant the installation of Barlow adjustable cargo platforms in the face of the dock, so designed and built that they would enter the side ports at any stage of the tide and not have grades or ramps to work over, enabling the movement of cargo, always on the level, to and from the ship by electric trucks, or by the tractor and trailer method of handling.

To handle the valuable refrigerator cargo into No. 2 and 3 side ports, required the installation of a special Barlow marine elevator of the portable type, which would work 16 feet below and 8 feet above dock and which could be moved away from the face of the dock and used for high piling in the sheds when the ships were not in port.

The elevator manufacturers were instructed to have the elevators ready for operation at the time of the arrival of the first vessel, Dec. 18. This necessitated foundation work, sometimes at night to take advantage of the low tides, and it meant keeping traffic open both on the first and second floors and not interfering with the normal operation of the pier. This work was carried out as planned, and all equipment was tested and in operation prior to the arrival of the vessel.

Within twenty minutes after the SANTA ROSA made fast to the pier, cargo was being discharged; the operation continued successfully and without interference, the work completed and the ship loaded according to schedule.

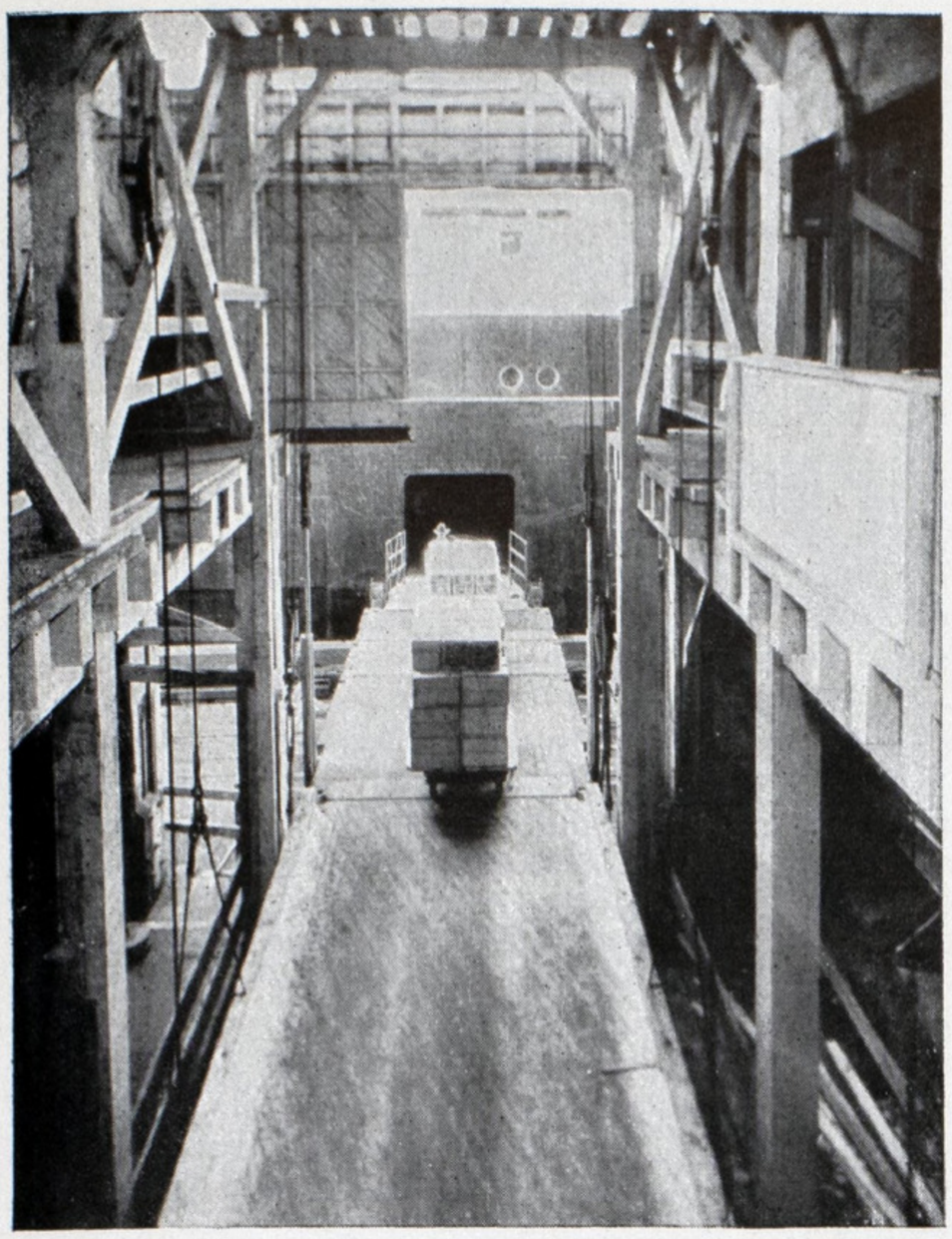
This vessel arrived Sunday afternoon at 3:00 p.m. At 12 o'clock Monday night, the gangs were cut from six to three and the work carried on in No. 1 and No. 3 side ports and the after No. 6 hatch. Loading was completed well before sailing time, which was Tuesday, at 10:00 a.m.

In working the cargo, the discharging was generally from ship to second story of the pier, via the elevators. The outgoing cargo from both second and first stories of the pier is handled in the same manner.

On the first trip, there were discharged from the side ports about 420 tons of cargo and loaded through the side ports over 570 tons. A very good showing for a new ship at a new dock and worked for the first time. The rise and fall of the vessel due to tide and load meant that the side ports were from 9 feet above dock to 8 feet below dock during this period and on Monday, Dec. 19, accompanied by the high tide there was a 35 to 40 mile wind—yet there was no slowdown in the loading.

At one time the side port was 5 feet above the upper deck of the pier. The tractor, with two or three trailers came on to the large, fast moving, inner platform of the elevator, and was raised or lowered until this platform matched up with the adjustable outer platform, spanning the open face of the dock. When the load moved directly across and into the port, the speed of the platform is such that there is no slow-down or lost time. The width and length of the platforms, approximately 10 x 30 feet are such that two tractor trains can pass easily, giving a relay movement, one going and one coming. The elevator equipment was always ahead of the loading crew.

It is the practice on this pier, when there are heavy loads to handle to and from motor trucks, to back

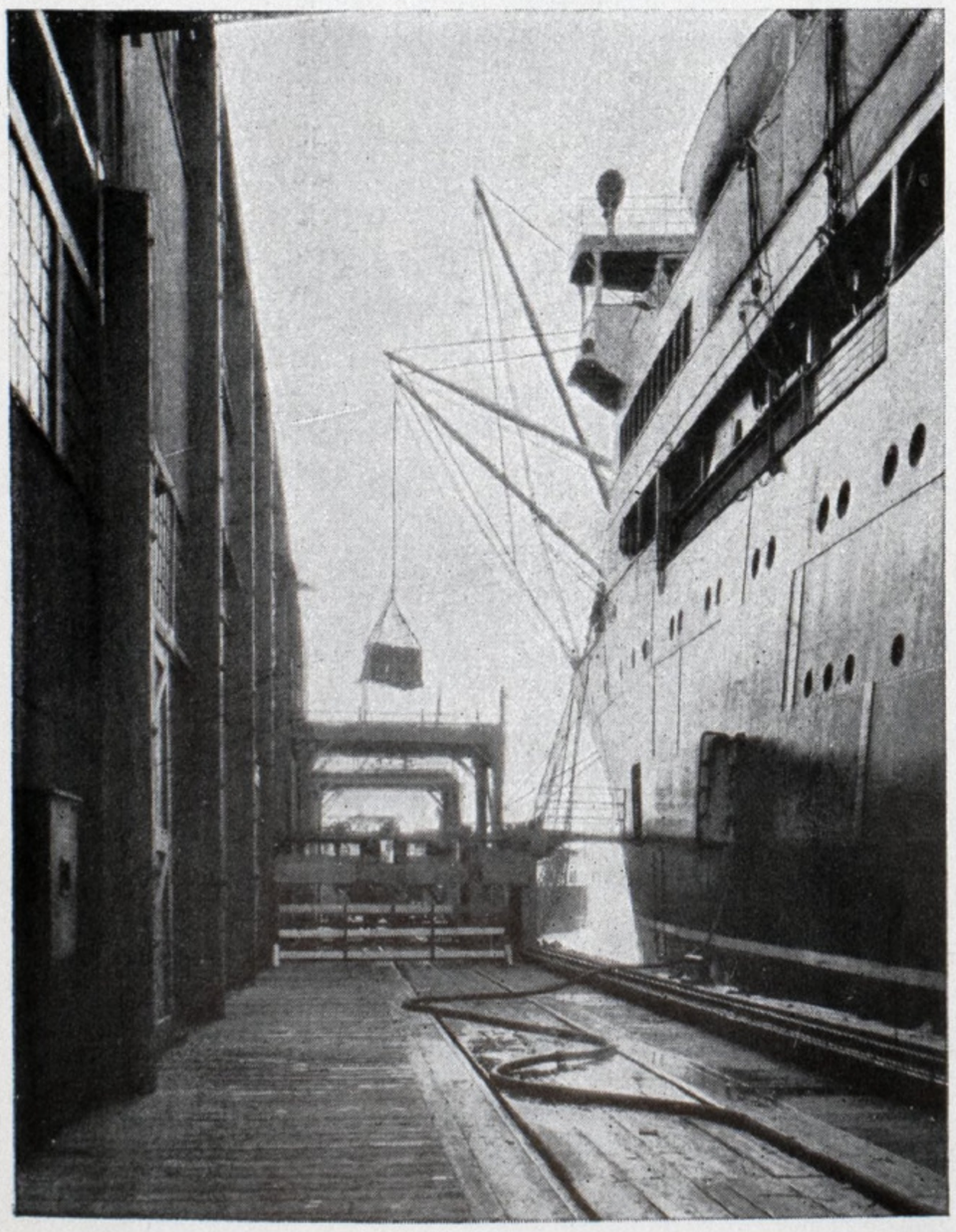


*Dock elevators are used to reach side ports at various tide levels*

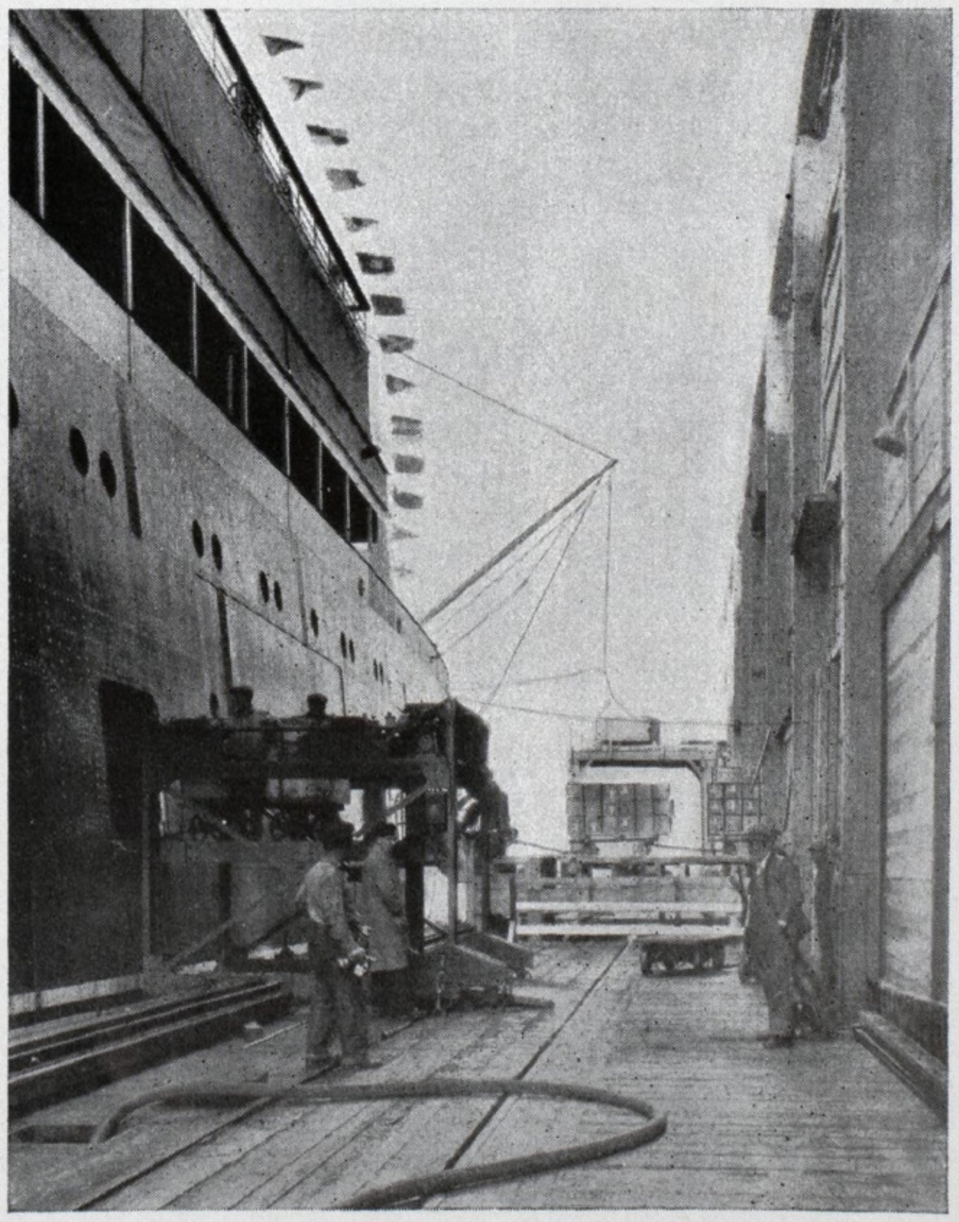
*The Grace Line terminal at Seattle is equipped fully with modern cargo handling equipment*

the truck up to the elevator. The platform is brought to the level of the truck body and the freight unloaded rapidly, without the use of the skid planks. If the commodity goes to storage on the dock, the electric truck puts it in place. If it goes on a trailer, the platform is lowered to the level of the trailer where it is easily put aboard. This operation is reversed in loading out. It means safer loading of cargo and reduces the congestion on the dock to a minimum.

Another interesting feature in the freight handling operation, is an Elwell-Parker fork type cargo handling truck, the first used at this terminal; although many of them are in use at other piers along the Seattle waterfront. The machine is powered by a Ready power gas electric unit, at 36 volts. Hence, the truck is motor operated. The machine has a lifting capacity of 3 tons and is equipped with tilting up rights and long heavy forks in front.



*Elevators give a level truck surface into and out of side ports at all times*



*Portable elevator being used in working cargo*

These forks pick up the sliding boards. The machine piles one load on top of another for storage on the dock when making up cargo prior to the arrival of the vessel. When the cargo is due to move outbound, the truck picks up the slingboard with its two to three-ton load and moves it to ship side, or for side port work, rapidly deposits the sling board loads on four wheel trailers, which are worked in trains, two or three each, and hauled by a gasoline tractor over the Barlow elevators and into the ship side ports. A straight and level continuous movement of freight. By this method, ramps of any nature, have been eliminated.

As an interesting example of what can be accomplished by the use of modern freight handling equipment; such as the elevators and electric trucks; the operating department of the Grace line reports that on other vessels, for which the line is agent, the following is accomplished:

One shipment, consisting of 270 drums of material, weighing 88,000 pounds, was discharged from the ship, loaded on trucks and cleared from the dock in three hours time. This shipment was handled by the electric trucks alone. Three motor trucks were used for hauling the material to the warehouse, some distance away. Under previous methods, this same amount of cargo handling would have taken six to eight hours, using the same three motor trucks, but without the electric trucks.

At another time, 120 tons of coffee and steel were received from a coastwise vessel and handled over the dock in two hours time. One lift truck and one gasoline trac or were used.

While the records are not complete for the working of the ships the Grace lines operating department has the situation well in hand, and is confident that it will show material improvements over the figures given. All men connected with the organization are very enthusiastic and greatly appreciate the facilities at the Bell street terminal furnished by the port of Seattle.

## Panama Canal Traffic Less During Last Year

Traffic through the Panama Canal during the calendar year 1932, from figures given in the *Panama Canal Record*, showed a decrease over that in 1931. The total tolls for the year 1932 was $19,685,671.81, compared with $22,530,820.84 for 1931 and $26,146,024.96 for the year 1930. The total tons of cargo transported through the canal during 1932 was 18,099,938, as compared with 22,048,197 in 1931 and 27,847,941 in 1930. The number of transits for 1932 was 4367 compared with 4972 for 1931 and 5885 for 1930.

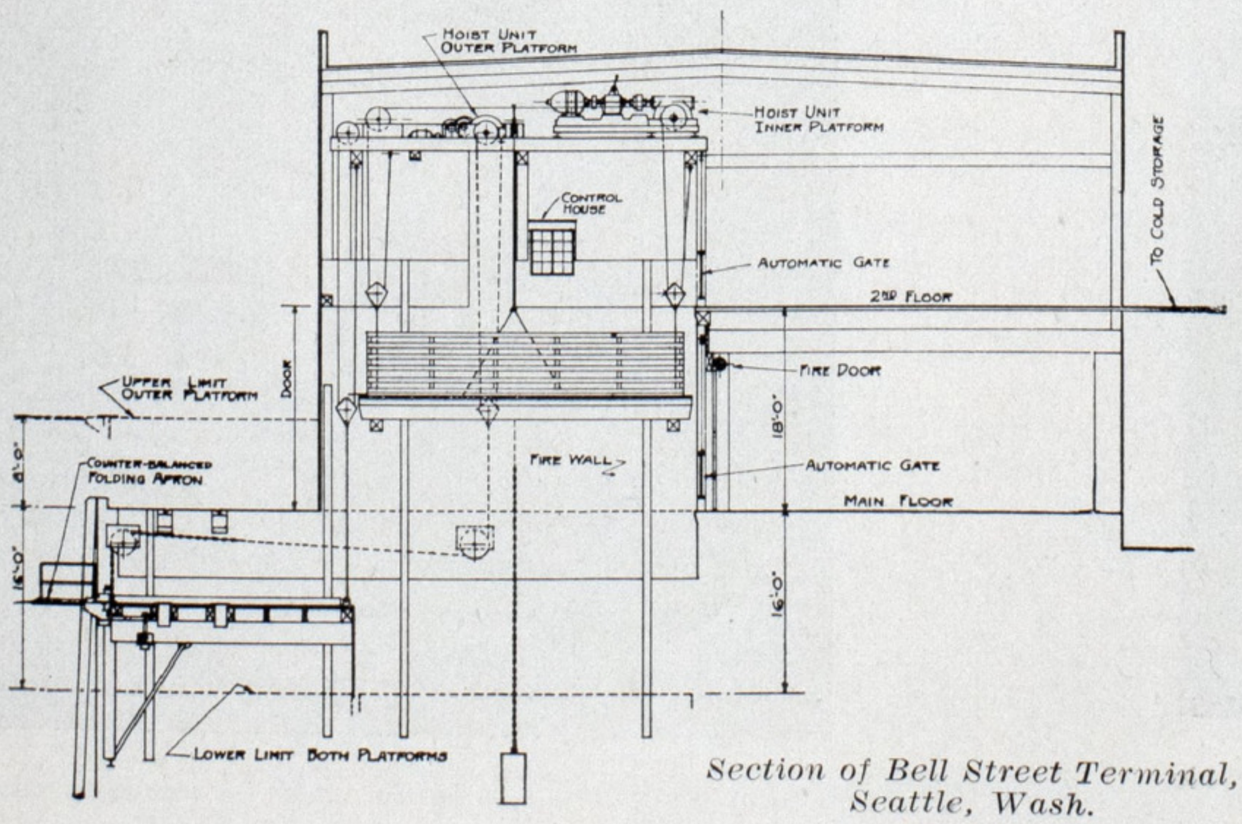
Commercial vessels of 22 nationalities transitted the canal during 1932. Of the total transits 38.6 per cent were vessels of the United States and 24.3 per cent were of British registry. These two nationalities thus made up 62.9 per cent of the total transits for the year. The ten leading nationalities were, United States, British, Norwegian, German, Japanese, Dutch, Swedish, Danish, Italian and French. The standing of the various nations in percentage of tons of cargo transported through the canal in the calendar year 1932 is as follows: United States, 43.0; British, 24.5; Norwegian, 8.6; German, 4.7; Japanese, 5.4; Dutch, 2.4; Swedish, 3.4; Danish, 2.6; Italian, 1.1; French, 1.6; all others, 2.7.

## Brilliant Rescue at Sea

The AMERICAN MERCHANT, under command of Capt. Giles C. Stedman has added another brilliant rescue at sea to the fine record of American seamanship. The AMERICAN MERCHANT was delayed three days in reaching port by heavy weather and by her heroic 12-hour fight against a mid-ocean gale in rescuing the 22 survivors of the British freighter EXETER CITY, on Jan. 20. Part of the delay was due to the reduced quantity of fuel oil on board due to a liberal use of the oil in calming the breaking waves in making the rescue.

The EXETER CITY had lost overboard her captain Ernest Legg, her third officer, a seaman and an apprentice when the AMERICAN MERCHANT came up. The remaining 22 were taken on board the AMERICAN MERCHANT by skillful seamanship. Captain Stedman maneuvered his ship close enough to the EXETER CITY to shoot a line across. By making fast a line to a lifeboat, it was hauled to the side of the EXETER CITY and then safely ferried back and forth between the two ships until all of the survivors of the sinking EXETER CITY were safely on board the AMERICAN MERCHANT.

On arrival in New York harbor, international code flags were displayed on ships there, reading "Very well done." No greater tribute could be paid to the seamanship exhibited by Captain Stedman and his men. The medal of valor of the city of New York was awarded to Captain Stedman, who is one of the youngest captains in the transatlantic service. He is 35 years of age.




*Section of Bell Street Terminal, Seattle, Wash.*

## Iron Steamboat Co.

Only $15,050 was the total bid at auction for the seven iron hull excursion vessel of the Iron Steamboat Co. recently offered for sale in New York harbor by the receivers.

These vessels, the CEPHEUS, CYGAUS, TAREUS, PERSEUS, SIRIUS, PEGASUS and the CETUS go back to the year of 1881 when they were built as excursion boats for use in New York harbor and for the run to Coney island. At that time these vessels represented an investment of $1,250,000.

It is estimated that in the many years of operation, this fleet carried 95,000,000 passengers. The name of the company originated in the fact that the vessels all had iron hulls. These hulls, it is said, are still in excellent condition.

## School Ship Graduation

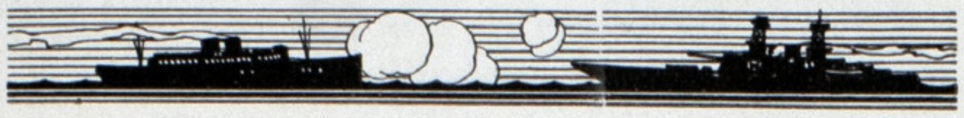
The New York State Merchant Marine academy held its annual graduation exercises on Jan. 31 at the Maritime exchange, 80 Broad street, New York city. Arthur M. Tode of the class of 1912 presided.

Eighteen graduates were presented with diplomas and licenses in the merchant marine.

The graduates in the deck department were: Walter Barnett Jr., O. A. Friedlander, G. H. Lundell, Donald McKinlay, W. F. Stevenson, Howard Thompson, J. J. Arasinowitz, J. W. Behnken, Daniel Dillon, P. R. Emmons, R. W. Power, Roscoe Smith, and G. J. Tullberg.

In the engineering department the graduates were: F. J. Caldwell, Edward Gallick, John O'Donnell, L. W. Smith, and S. B. Whitmore.

# Useful Hints on Cargo Handling



*THIS page is being devoted to short items on all matters having to do with the more efficient turn-around of ships. These items are intended to be of a helpful nature.*

*We will welcome for this page brief descriptions, illustrated if possible, of any better or safer way of performing any function in cargo handling. Also, any questions submitted will be answered by the editor.*

A PRINCIPLE which applies in the buying of all materials is discussed in the chapter on rails in Wellington's monumental book on the economical location of railway lines.

Buying performance is fundamentally buying *dollar* performance. This point is strongly stressed by Wellington. The profitableness of a business concern depends on the economical use of capital and the economical expenditure of money for current expenses. A well managed organization expends each available dollar where the return is the greatest, whether it be for wages, salaries, or new equipment.

Wellington develops this point of economical use of company dollars very soundly in his discussions of the construction of railways. Reading Wellington again, after tweny years, I am impressed with the fact that fundamental transportation principles do not change, and they apply in every kind of transportation. If Wellington's book had been more of a guide for the transportation industry, as it should have been, profits would have been greater and losses less, because less capital and operating dollars would have been wasted. Conditions of business depression make important the development of a more thorough and broader training for men in managerial positions.

## Value of Side Ports

FOR those interested in sideports, the following from the book by "Lawrence of Arabia," the *Revolt in the Desert* will be significant;—

" 'She was an Indian troopship, and her lowest troop-deck had great square ports along the water level. Captain Linberry opened these for us and we stuffed straight in, eight thousand rifles, three million rounds of ammunition, thousands of shells, quantities of rice and flour, a shed full of uniforms, two tons of high explosives, and all our petrol, pell mell. It was like posting letters in a box. In no time she had taken a thousand tons of stuff. '"

## On Segregating Cargo

A LINE at Boston segregates outboard cargo for each port as follows:

Heavy cargo—for stowage in lower hold and 'tweendecks.

Light cargo—for 'tweendecks and upper port of lower hold.

Wet cargo—to be stowed on 'tweendeck or tank tops.

Acid cargo—for deck stowage.

Rubber goods—for stowage in a special compartment.

This requires a number of piles on the pier, but assists the stevedore as he knows his cargo and can handle it quicker and stow it to better advantage. The pier piles are noted on dock receipts. This with ship's stowage plan provides direct tracer of a shipment.

## Uses Gravity Conveyors

AN INTERCOASTAL line uses gravity roller conveyors for discharging canned goods. Two 10 foot rollers 18 inches wide are bolted to timbers. The platform slings are loaded on the rollers and rolled to the pile. The cases are loaded on to the sling and when the load is complete the loaded sling is pushed under the falls by two men. The cases on the top of the pile are placed on edge, so that the strain of the spreaders acts against the end of the cans, thereby preventing damage.

## Routing of Shipments

LESS than carload lot shipments are sent by shippers at various inland points to a shipper or steamship company in Brooklyn, N. Y. Waybills come through to the New York Dock Co. ahead of the car. Consignee is notified and bills are made out.

The car arrives at the railroad terminal. There it is taken out of line haul car and put in one for the New York Dock Co. There may be several shipments in other cars which are also transferred into this car. It is shifted to a car float and ferried to the Brooklyn terminal.

On receiving several cars like this at the terminal, the New York Dock Co. transfers the freight from the various cars to one marked for Isthmian line or whatever steamship line freight is consigned to. Usually the car with the most freight in it for the Isthmian line is chosen and that car is used as a ferry. Whenever that car is full or at the end of the day it is shifted to the Isthmian pier and discharged the following day.

When delivering freight bills to the pier the railway also delivers a copy to the New York office of the steamship company, from which are made out the dock receipts which go to the dock for signing etc. The bills that go to the dock direct are signed by the receiving clerk and returned to the New York Dock Co. for their billing and payment by the steamship line.

## Tinplate at Baltimore

Tinplate at Baltimore is handled with electric chisel trucks on the pier and in ship's hold. A truck picks up a load of 10 cases and carries it to the pier apron. From the apron it is hoisted into the ship and landed on blocks. The load is then picked up by a chisel truck and taken to place of stowage. Two chisel trucks are used in the hold and two on the pier. Four men are used on the pier, three on deck, six in the hold, a total of 13. This gang averages 80 tons per hatch hour, equal to 6.1 tons per man hour.

## Stowage Characteristics

LUMBER, 100 feet board measure gross will average 80 feet board measure net. One thousand feet board measure will average 115 cubic feet in stowage, and 83 cubic feet is perfect.

Copra (Singapore) shipped in bulk must not touch iron and it is protected with dunnage and mats. No burlap is used on account of the danger from spontaneous combustion. In a shipment of 2500 tons, 8500 mats were used. In the lower hold copra stows, 82 to 86 cubic feet to the ton; in 'tween decks it stows 88 to 95 cubic feet to the ton; and the average per ship is 90 cubic feet. There is little loss of stowage as it can be loaded beam filled. Copra sweats considerably and will lose 12 per cent by moisture in passage. It must have fair ventilation.

# Up and Down the Great Lakes

## Agreement Approved—Lake Levels—Propeller Club Meets—Illinois Waterway—Duluth-Superior Traffic—Offices Moved—Ore on Dock

THE shipping board on Feb. 1 in compliance with section 15 of the shipping act of 1916 approved a conference agreement between the Cleveland and Buffalo Transit Co., Detroit and Cleveland Navigation Co., Great Lakes Transit Corp., and Minnesota Atlantic Transit Co.

This agreement provides for association of the signatory carriers in an organization to be known as association of regulated lake lines. The parties undertake to charge and collect all freight and other charges, as unanimously agreed upon from time to time, for or in connection with transportation of freight carried by vessels owned, operated or controlled by them, or for which they may act as agents between ports on the Great Lakes or waters tributary thereto on regular routes or in direct competition with regular routes of any member. Such rates and charges are to be collected in currency of the United States on actual gross weight or measurement of the cargo. Coal, coke, iron ore, stone and grain in bulk are excluded from the provisions of the agreement.

Allowance of discounts, payments or rebates from agreed rates or unjust discrimination against brokers, shippers or receivers of cargo or trucking companies or other carriers of shipments for account of the member lines is prohibited. Member lines are to post penalty deposit in the sum of $5000 as a guarantee of the faithful performance of all obligations under the agreement. Decisions in respect to alleged violations of the agreement are to be determined by unanimous vote of the member lines (except the line charged with the breach and the complaining line) present at a meeting at which such alleged violation is considered and the minimum penalty for violation is to be the total freight revenue received or entitled to be received by the offending member—no penalty to exceed the amount of the member's penalty deposit.

Proposed changes in rates and new rates are to be submitted to a rate committee consisting of a representative of each member of the association and no such changed rate or new rate is to be carried into effect until approved by all members, except that changes in rates on automobiles, if not approved by the conference, may be made effective upon 30 days notice filed with the secretary of the conference. The agreement is for a period of 10 years with option of renewal for successive periods of 5 years each. Member lines not in default with respect to payment of their prorata share of conference expenses or other obligations may withdraw upon 90 days written notice and other carriers may become party to the agreement with the unanimous approval of the member lines; no carrier to be denied admission without just and reasonable cause.

## January Lake Levels

The United States Lake survey reports the monthly mean stages of the Great Lakes for the month of January as follows:

| Lakes | Feet above mean sea level |
|---|---|
| Superior | 602.07 |
| Michigan-Huron | 577.60 |
| St. Clair | 573.54 |
| Erie | 570.68 |
| Ontario | 244.29 |

Lake Superior was 0.15-foot lower than in December and it was 0.15 foot lower than the January stage of a year ago.

Lakes Michigan-Huron were 0.08 foot lower than in December and they were 0.64 foot lower than the January stage of a year ago.

Lake Erie was 0.29 foot higher than in December and it was 0.54 foot lower than the January stage of a year ago.

Lake Ontario was 0.01 foot lower than in December and it was 0.06 foot lower than the January stage of a year ago, 0.80 foot below the average stage of January of the last ten years.

Offices of the Bethlehem Transportation Co., operating a fleet of Great Lakes bulk freighters, have been moved from Cleveland to Lackawanna, N. Y. and will be consolidated with Bethlehem's steelworks offices at that point. Frank C. Oakes, Glen V. Evans, Albert H. Amhaus and Miss Gladys Morgan of the Cleveland staff will be transferred to the new location.

## Propeller Club Meeting

The third meeting of the Propeller club, port of Cleveland was held at the Hollenden hotel, Feb. 13 with an approximate attendance of 55 members.

President A. B. Kern announced that the club had received a letter advocating having the two fire tugs of the port of Cleveland put back in commission. He pointed out that the city has no fire protection at all on the Cuyahoga river and its harbor. It was suggested that members individually and especially those directly affected write to the city council expressing their views.

After dinner, the speaker of the evening, A. J. P. Vandermyn, president of the Propeller club, port of Pittsburgh, spoke on the St. Lawrence waterways project and the activities of the port of Pittsburgh. He also extended a cordial invitation to attend the annual meeting of the United States Propeller club at Pittsburgh, Oct. 13 and 14.

An interesting and instructive motion picture was shown on the progress of lake transportation dealing principally with the limestone trade. The film was loaned by the Michigan Limestone Co. The next meeting of the club will be held on March 13.

## Chicago Propeller Club

Port of Chicago chapter of the Propeller club of the United States has been formed. The organization's principal objective is the promotion of the interests of the American merchant marine. The association aims to develop American shipipng in foreign trade up to 50 per cent of the offshore commerce. Officers chosen to serve the Chicago unit are as follows: President, Martin W. Oettershagen, harbor engineer, city of Chicago; first vice president, Steve C. Tooker Jr., Tooker Storage & Forwarding Co.; second vice president, Robert W. Bruce, Dollar Steamship Line; treasurer, Charles B. Hopper, American Hawaiian Steamship Co.; secretary, George H. Weiss, *Chicago Journal of Commerce*,

## Illinois Waterway Ready

The Illinois waterway will be formally opened in June in connection with the opening of the Century of Progress exposition at Chicago, it has been announced. Opening had been planned for March but has been delayed by alterations of railroad bridges spanning the channel.

# Busy Season is Expected at the Port of Oswego

By Arthur J. Owen

THE Port of Oswego, N. Y. will be one of the busiest on the Great Lakes the coming season with the carrying out of plans now being formulated by some of the leading shipping and grain interests on these waters. Indications point to greatly increased shipments in several different lines, with grain, package freight, coal and automobiles in large volume.

The state elevator and terminal will be the scene of the biggest year in its history, based on agreements entered into recently.

The Oswego Dock Co., a subsidiary of the Seaboard-Great Lakes Corp., the largest operator on the lakes-canal routs, has secured permission from New York state, department of public works, to erect a large warehouse on the canal terminal to be used in handling package freight.

This new warehouse will be equipped with cranes and other facilities making possible the transfer of package freight at this port just as rapidly as is done at other lake ports. The warehouse owned by the state will also be used, and the summer of 1933 will see unusual activity.

The Seaboard-Great Lakes Corp., has under charter motorships of the I. L. I. fleet also the CLEVELANDER and DETROITER of the General Motorship Corp., two of the largest operating on the barge canal, and other fleets. The Nicholson Universal Steamship Co. which last season brought more than 6000 automobiles from Detroit and Cleveland factories was so well pleased with its initial test, that plans are under way to greatly increase the business this season. The Universal company also handled a large amount of package freight last year, and look for a still further increase in this class of cargo for the coming season.

The Cargill Grain Co. which operates the Albany N. Y. state elevator, largest single grain storage plant in the United States, will also use the Oswego elevator, and has agreed in a contract with New York state officials to ship not less than 5,000,000 bushels of grain through the local elevator this season.

This contract gives the Cargill company for continual use 600,000-bushell space in the Oswego elevator, thus leaving a 400,000-bushel space for other shippers in this 1,000,000-bushel plant. The Cargill company will use the Oswego elevator as a feeder for the Albany plant and all indications point to a tonnage that will far surpass the minimum amount

The Oswego elevator is being equipped with new machinery in order to handle a greater volume of grain in a shorter time, the work now nearing completion will make it possible to unload 300,000 bushels of grain in 15 hours.

Large upper lake shipping interests are focusing their attention on Oswego, and heads of many of these firms have come to the port in order to inspect its facilities and gain first hand knowledge of its possibilities. With the return of better times many of these firms are planning to ship through this port.

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## Duluth-Superior Traffic

On the basis of total freight tonnage, arriving and departing, Duluth-Superior was third in rank of the principal ports of the United States for the year 1931, being exceeded only by New York and Philadelphia. The navigation season for Duluth-Superior averages only about 8 months in the year.

The report of the United States engineers on the maritime commerce of Duluth-Superior for the calendar year 1932 show the total number of tons of freight received and shipped to be 10,519,804 at an evaluation of $133,068,353. The total number of steamers arriving and departing was 2625 with net registered tonnage of 9,774,076. For all types of vessels including motorboats, sail and unrigged vessels and steamers, the total number of arrivals and departures was 2709 of a net registered tonnage of 9,933,549.

The average number of tons of cargo received and shipped per day during the season of interlake navigation at Duluth-Superior, was 45,738. Some idea of the extent of the business depression during 1932 may be had by pointing out that the freight tonnage for this year was 10 per cent under that for the year 1900; 71 per cent under that for the year 1910; 77 per cent under that for the year 1920 and 60 per cent under that for the year 1931.

The total number of passengers arriving and departing during the calendar year 1932 was 8033. The navigation season for interlake traffic covered a period of 230 days. This is reckoned from the first arrival or departure for the lower lakes on April 21 to the last arrival or departure for the lower lakes on Dec. 6. Local navigation opened March 31 and closed Dec. 6, 1932. Tonnage figures are in short tons.

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The general offices of the Ohio division of the Vacuum Oil Co. Inc., and the offices of the former Great Western Oil Co. Inc., have been consolidated, and are now established in new headquarters at 3846 East Thirty-seventh street, Cleveland. A. F. Bowen, as heretofore, is in charge of marine sales.

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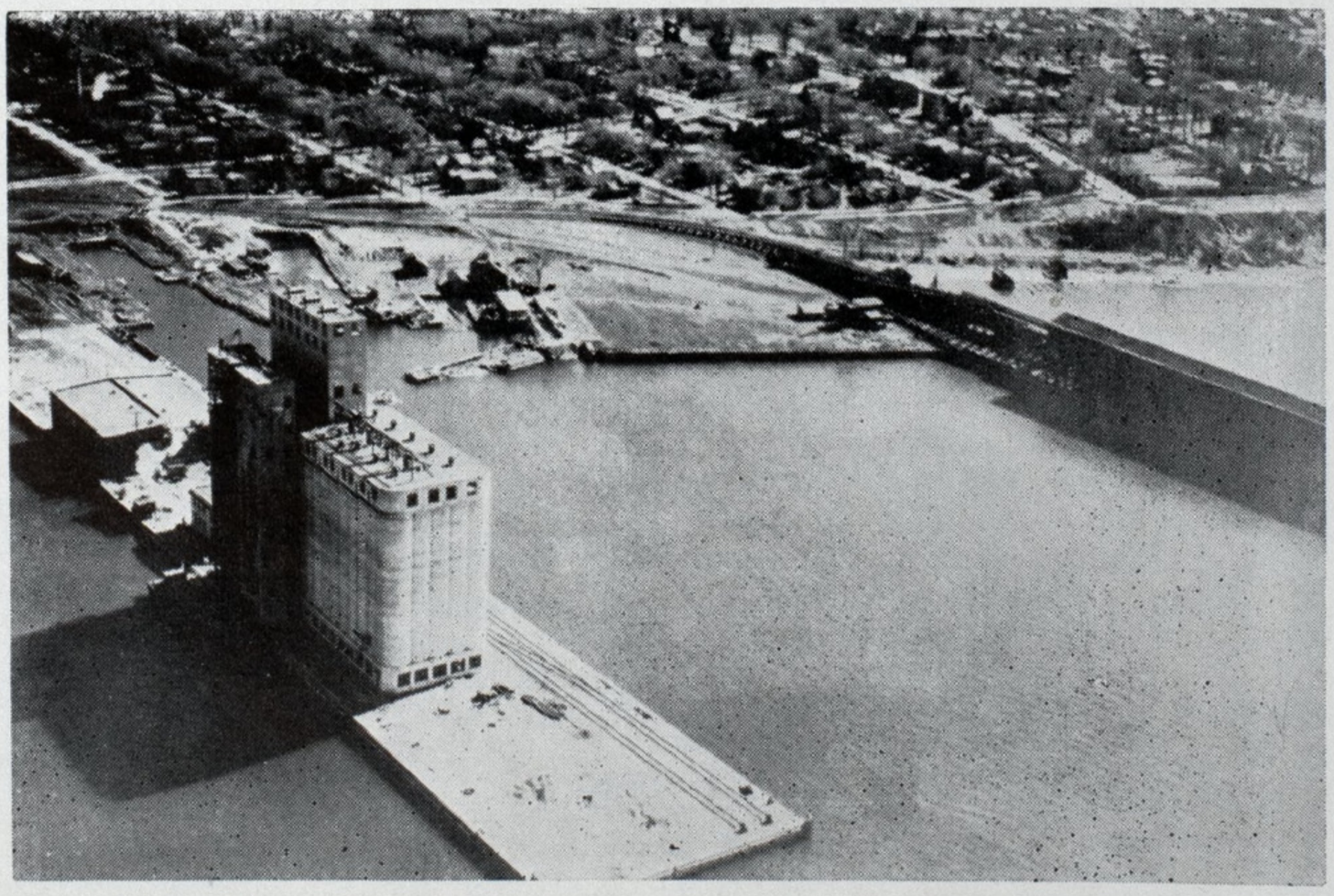
The balance of iron ore on dock at Lake Erie ports on Feb. 1 was 5,131,577 tons. This compares with a similar dock balance April 1, 1932 of 5,759,363 tons.



*New York State Terminal, Oswego, N. Y. Grain and Package Freight will be Handled here in Large Volume in the Coming Season*

# Naval Architect's View

(*Continued from Page* 10)

we know no one has yet collected and analyzed them.

I am sure you will all agree that this must be done before a comprehensive shipping program can be evolved. In other words, this society proposes to lay a foundation of facts on which such a program can be constructed, and to make the results of its study available to anyone interested in American foreign trade and shipping.

### Study of Shipping Program

With this object in mind the council of the society directed the appointment of a committee to make such a study. A committee was appointed and in the performance of its duties decided that the following matters were of importance in preparing its report, namely:

1. An analysis of facts regarding our existing merchant fleet as a whole so as to determine our probable surplusage of tonnage, and to establish the facts as to whether this surplusage is an asset or a liability for our future development.

2. An analysis of our present tonnage as to age and replacement requirements; new tonnage built since the war, and new tonnage built by foreign countries since the war, so as to present a factual picture of the status of our merchant fleet as compared with that of other nations.

3. An analysis in some detail of the modern vessels constructed under the provisions of the act of 1928 so as to endorse or otherwise their satisfactoriness as to type, size, speeds and other qualifications to meet the requirements of the particular services in which they are engaged.

4. An analysis of our new merchant fleet as to its satisfactoriness as naval auxiliaries, comparisons to be made wherever practicable with merchant vessels of foreign nations as to their suitability for naval services.

5. The development of an approximate future replacement program from the information developed in the four previous paragraphs.

6. An analysis of the handicaps both in capital cost and in operation that obtain with American shipping in foreign trade setting forth as clearly as possible the facts with regard to both the cost of construction and operation with an analysis of the actual differentials in cost as they exist, taking account of all known information on this subject.

7. Analyze the known means, if any exist, of eliminating these differentials in part or in whole.

8. If the differentials cannot be eliminated analyze the alternatives which appear to be either government aid or government operation. Develop the facts so far as practicable as to whether the aids granted have been sufficient to permit operation of American ships in competition with foreign ships on the same trade routes.

9. An analysis of shipping, both American and foreign, in particular trade routes, with a view to ascertaining as far as practicable whether American vessels on these routes are on a favorable competitive basis with foreign vessels on these same routes.

### Analysis of Trade Routes

As the committee proceeded with its study it was found that there is information available from which most of the above analyses can be quite readily made, as related to the last item, however. "The analysis of particular trade routes," there has been so far as known no thorough analysis of our services in these routes as compared with foreign services. It is believed that this discloses a problem, a proper study of which would throw light upon the type, the size, the speed and other characteristics of ships that would be most desirable for a future replacement or addition to vessels now in these services. The committee, by request of the council of the society, at its meeting in November last has asked the shipping board to co-operate with it for a suitable analysis of the particular problem.

And I am glad to say that the shipping board will co-operate, and without that co-operation, gentlemen, I don't believe we could get to first base.

### Programs of Ship Construction

The committee has realized throughout that the outstanding difficulty in the operation of American ships in the foreign trade is the fact that the cost of ships in the United States and the cost of their operation under the American flag is much higher than for foreign-built and foreign-operated vessels, due primarily to the higher wage scales and the higher standards of living prevailing in this country. A study of the facts shows that an analysis of these differentials has been made by the National Council of American Shipbuilders, by the shipping board and by others, and while the committee has found nothing to change the findings of these bodies that the cost of a cargo vessel, combination vessel or oil tanker to the shipbuilder in the United States would range from 50 to 60 per cent more than for the construction of vessel of the same type in Great Britain, it appreciates, nevertheless, that there are other factors entering into the situation at the present time that may substantially increase this differential, the two most important of which are:

(a) Distressed conditions abroad and

(b) Low rates of exchange.

The shipbuilders abroad will take ships now for almost nothing. In explaining that low rate of exchange you need only to visualize the old value of the English pound, $4.86, with the present average of about $3.29, which means that a cargo ship which, if built in Great Britain, would previously have cost $486,000 in our money, would now cost about $320,000.

Both of these conditions vary from time to time and should be eliminated in part or in whole as conditions improve. They are, nevertheless, factors that must be taken into account.

So far as the work of the committee has developed, it seems to it that one of the most important developments, as well as one of the most difficult in American shipping, would be a reasonably uniform program of ship construction, as it is only by the maintenance of a permanent staff of technical and mechanical employes that the greatest efficiency and the lowest cost of production can be attained. Anything that can be developed to this end will be most helpful.

In presenting this paper to the sixth national merchant marine conference, it is for the purpose of acquainting the shipping board and others with the action the society has taken to throw some light upon this important subject and the co-operation of this group in any way possible to that end is requested.

I cannot close my remarks without commenting upon the international convention on safety of life at sea. This convention has been ratified by 11 nations and I understand that it went into effect on Jan. 1 a year ago.

In the United States ratification is pending before the foreign relations committee of the senate. Hearings were held upon it last spring but to date no action has been taken by the senate committee.

Members of the Society of Naval Architects and Engineers participated in the preliminary information and in the conference at London. The chairman of the committee on ship construction was one of our members. He played an important part in the adoptions of the convention. Its ratifications by the senate is, in the opinion of the society, a matter of very great importance, both because of the part played in bringing about an international agreement and because of the fact that failure to ratify will subject American shipping in foreign ports to handicaps and embarrassments, the nature of which cannot yet be foretold, but which will, nevertheless, interfere with the operation of our ships in foreign trade.

I understand that earlier conferences of this group have adopted resolutions favoring the ratification of this convention. It is of such importance that in my opinion efforts by individual members of this group are not only justifiable, but essential to enlighten their representatives in the senate of the importance to American shipping of the ratification of this convention, and I so recommend.

# Personal Sketches of Marine Men

## Roger D. Pinneo, Northwest Manager, States Steamship Co.

By Robert C. Hill

HE BEGAN his shipping career by an early and thorough grounding in railroad transportation before and after coming to Seattle.

HIS experience has covered both intercoastal and foreign shipping during years of great expansion on the Pacific coast.

RECOGNIZED as an expert in maritime affairs, he is active in the extension of trade and improvement in shipping conditions.

INTIMATE association with transportation in all its varied phases over a long period has given Roger D. Pinneo an unusually broad shipping experience. He is president of the Merchants exchange of Seattle as well as Northwest manager of the States Steamship Co., operating the Quaker Line, intercoastal, and the States line to the Orient.

His varied activities in shipping have taken him to many foreign ports, and he is thoroughly posted on maritime practice, operating methods and terminal conditions. His knowledge of commerce is world-wide and in far flung corners of the globe he has close business and personal friends.

A native of Princeton, Ia, Mr. Pinneo began his colorful career in 1888 as an employe of the Milwaukee railroad in Illinois. In December 1898 he arrived in Seattle and joined the staff of the former Pacific Coast Steamship Co. as chief clerk and cashier. Like many other shipping men he obtained an early grounding in railroading before turning his attention to water transportation.

His next connection was as chief clerk and cashier at Seattle for the White Pass & Yukon railway. This company sent him to Alaska in 1900 as chief clerk and later as general freight and passenger agent with headquarters at Skagway. He remained in the Northland until 1906. Returning to Seattle he went back to the Pacific Coast Steamship Co. as Northwest freight agent and assistant general freight agent. For ten years he participated in a great expansion of coastwise trade. In 1916 the Pacific Coast Steamship Co. and the Alaska-Pacific Co. were merged as the Pacific Steamship Co.

He was stationed in New York for a year during the hectic peak of cargo congestion and scarcity of ocean space. At this time Mr. Pinneo, with the title of Oriental manager, was sent to the Far East to establish agencies and develop business for a new line, then known as the Admiral-Oriental, but now designated as the American Mail Line, a unit of the Dollar services. For a year he traveled through Siberia, Japan, China, the Philippines and Dutch East Indies establishing connections that have since resulted in a steady flow of commerce. Upon his return to Seattle in 1919, he was designated manager of the foreign department, later becoming traffic manager of the Pacific Steamship Co.'s various services, coastwise, oriental and intercoastal.

In January 1921 he became general traffic manager for the port at Astoria, Ore., after five years he returned to Seattle as assistant to H. F. Alexander, then president of the Pacific Steamship Co. At this time Victoria, B. C. was developing its terminal facilities so Mr. Pinneo, with his wide knowledge of shipping, was loaned to the port and its chamber of commerce as industrial adviser.

He next became manager of the Merchants exchange of Seattle and contributed greatly to the rapid growth in membership and influence of that organization. This job completed, he resigned and became Northwest manager of the States Steamship Co., in which he has entered his third year. He has just been drafted to serve as president of The Merchants exchange for 1933.

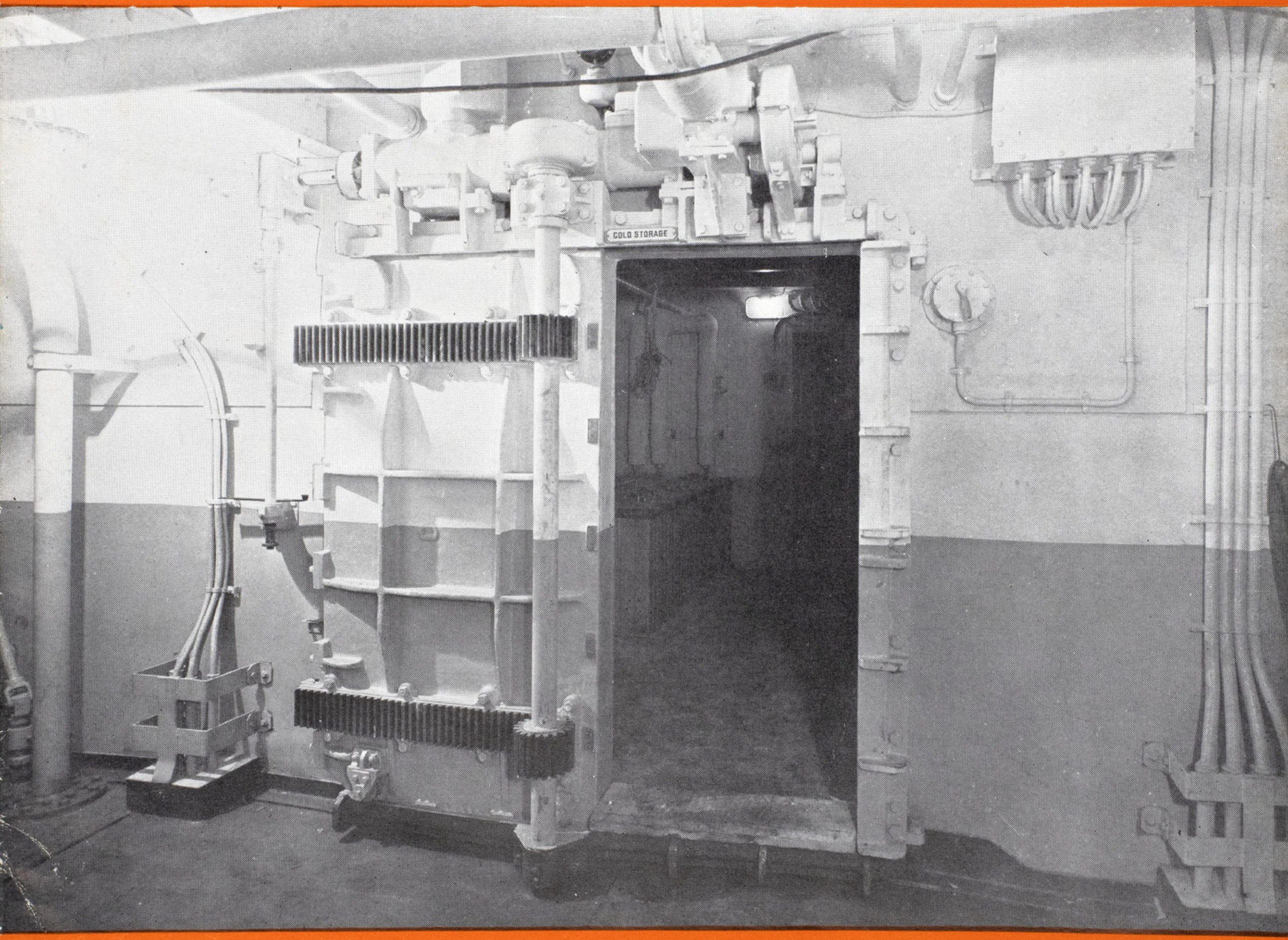
In shipping circles, Mr. Pinneo is recognized as one of the outstanding transportation experts of the Pacific coast. To public service he has contributed liberally of time and effort while every movement for the extension of trade and the betterment of shipping conditions has received his active support. His advice is frequently sought by others in the solution of transportation difficulties.

He holds memberships in many clubs. He does not claim to be a golfer but admits he is still an ardent baseball fan. He has a personality that makes friends and keeps them. Altogether his life has been one of activity and accomplishment.

# Marine Review

Reg. U.S. Pat. Off.

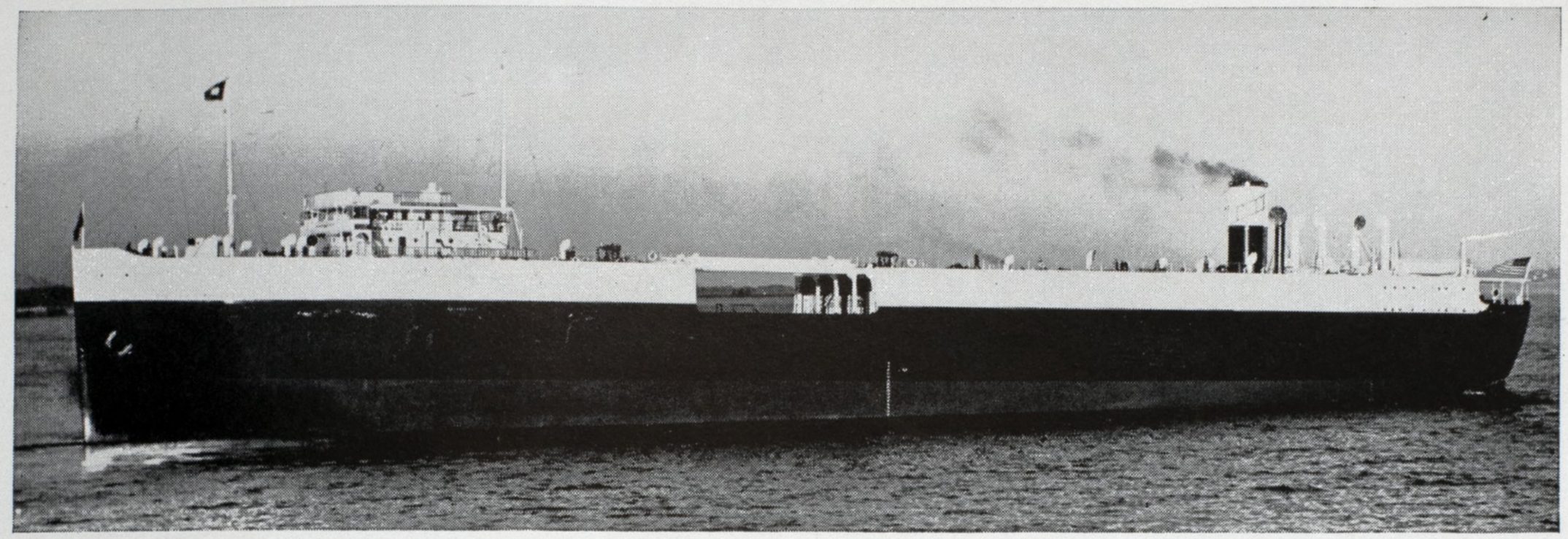
*The National Publication Covering the Business of Transportation by Water*




Watertight Door—S. S. PRESIDENT HOOVER

March, 1933

# THE LATEST SHIP CONSTRUCTION



S. S. Seatrain New York  S. S. Seatrain Havana

Fast Freighters For Carrying Loaded Freight Cars on 4 Decks

An Outstanding Example of Modern Ship Construction

The delivery to their owners of these two Seatrain Ships is further proof of our claim that we are in a unique position to offer advice on the construction of nearly every type of ship —either Steam or Diesel.

Our Yards and Shops are equipped with every facility for rapid and accurate construction of ships of all types.

Builders of Steam and Diesel Engines.

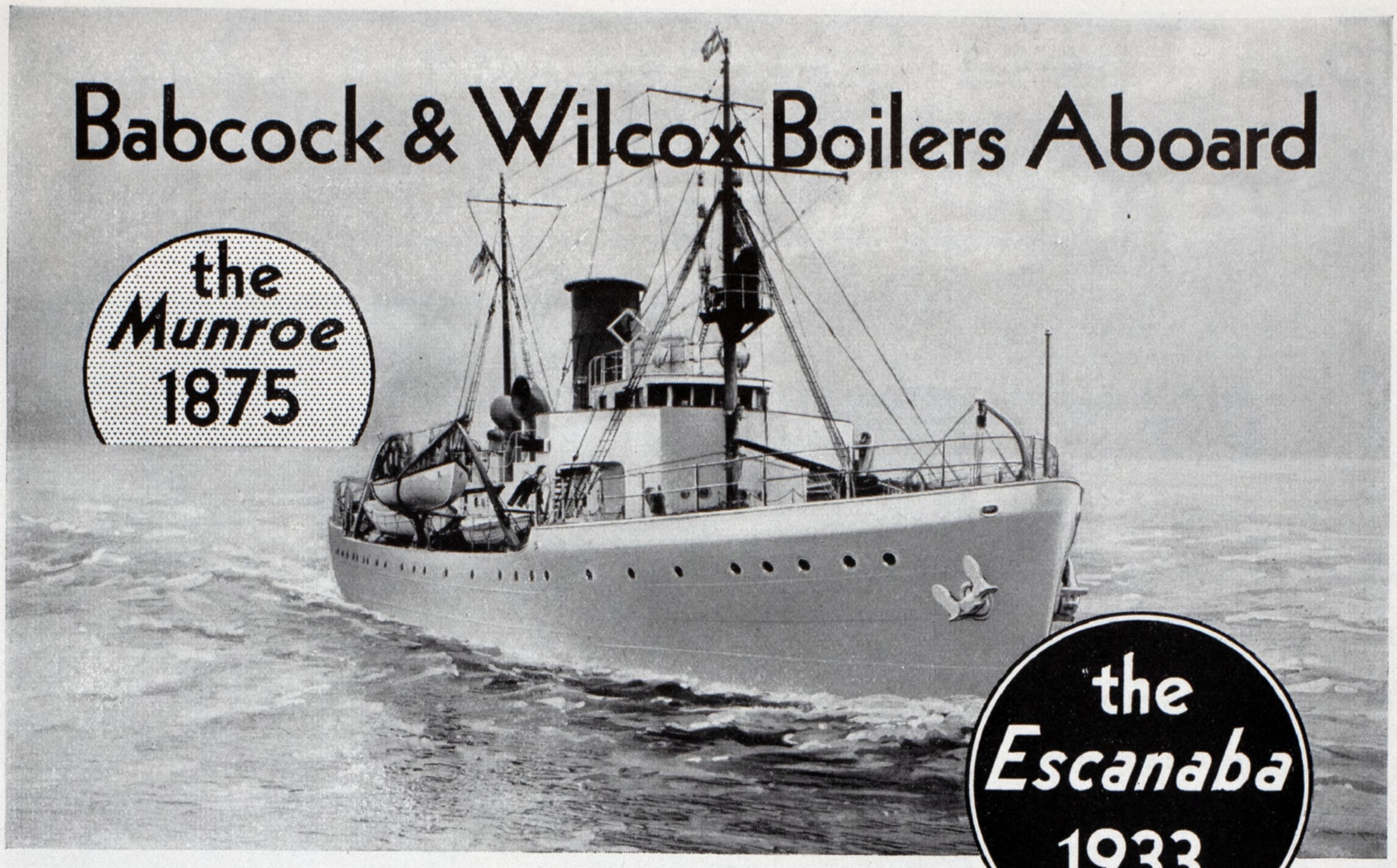
In addition, we do Drydocking and all kinds of Marine Repairs.

## SUN SHIPBUILDING & DRY DOCK CO.

**Chester, Pa.**  **25 Broadway, N. Y.**

Vol. 63, No. 3, March, 1933, issue of MARINE REVIEW, published monthly at Cleveland, O. Entered as second class matter at the post office, Cleveland, Ohio, under the act of March 3, 1879. Subscription price $3 a year in U. S.; Canada, $4; Great Britain £1:45; single copies, 35c

# Babcock & Wilcox Boilers Aboard




The C G. C. *Escanaba* . . equipped with Babcock & Wilcox Boilers, Superheaters, Desuperheaters, Oil Burners and Feedwater Regulators.

THE first marine boiler built by Babcock & Wilcox for the United States Government was constructed in 1875 for the *Munroe*.

The *Escanaba*, C. G. C. No. 55, a recent addition to the fleet of fine ships for the U. S. Coast Guard, is the latest of thirty-three cutters equipped with Babcock & Wilcox Marine Boilers.

During the fifty-seven years that have elapsed since the Babcock & Wilcox Marine Boiler was installed in the *Munroe*, The Babcock & Wilcox Company has been the leader in the design and manufacture of marine water-tube boilers . . . and this position has been strengthened by the Company's contributions to the Marine Industry during the forty-five year period that has seen practically the entire development of marine-water tube boilers.

**BABCOCK & WILCOX**
*Marine Products*

Water-Tube Boilers
Desuperheaters
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**BABCOCK & WILCOX**

THE BABCOCK & WILCOX COMPANY — STEAM

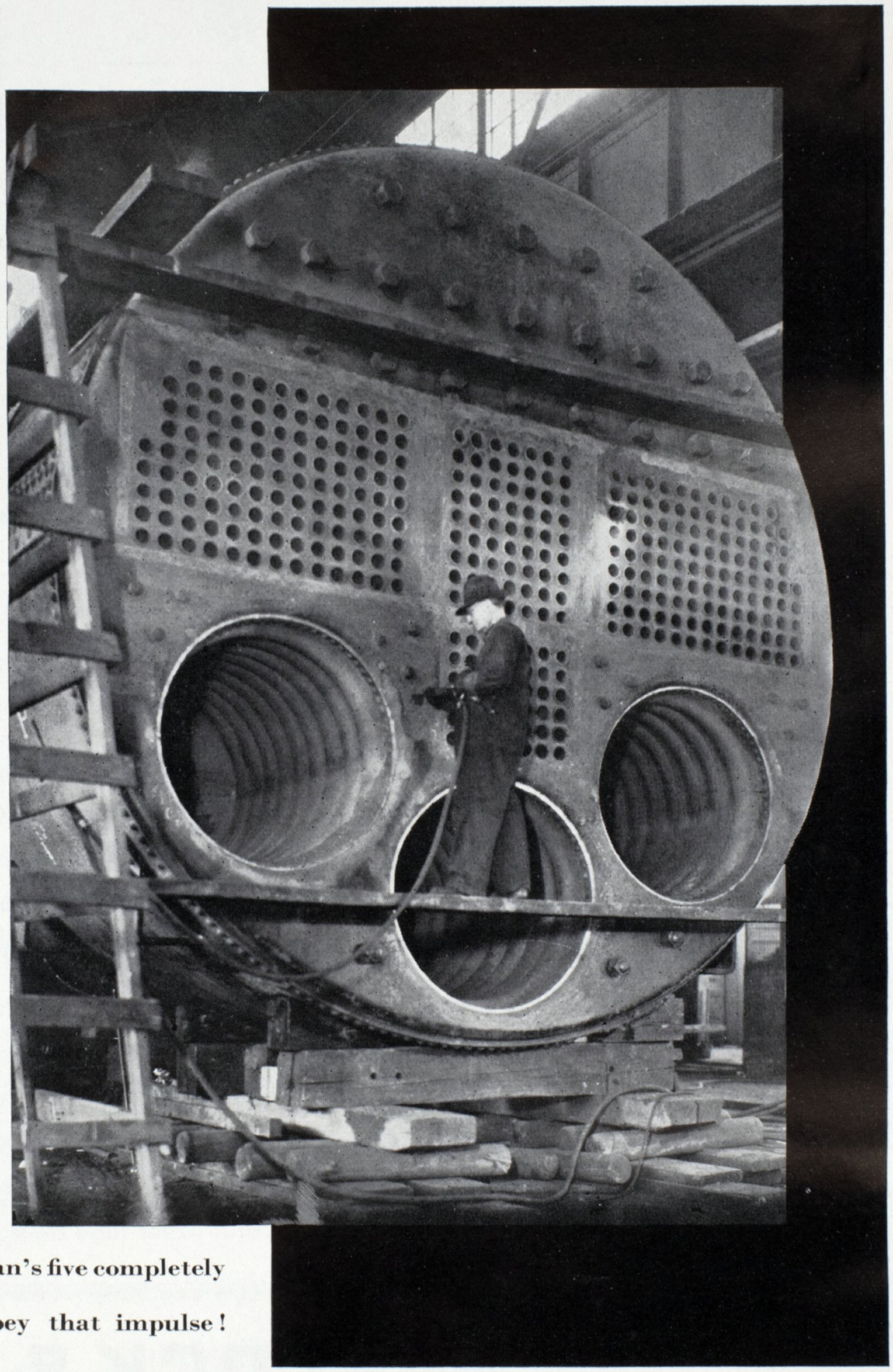
M-20

# Get Those Improvements Out of Your Mind And Into Your Ships!

IT is clearly sound business judgment to have those ship repairs or alterations, which you have planned to have us make for you sometime, made by us *now!*

Many ships are still in winter berths as we write. A good time for repairs—no interference with traffic; or loss of precious cargo hauling opportunity. Materials are now lower in price. Labor does a better job, quicker. Surely it is good business to take advantage of this opportunity.

A little job left too long often becomes a *big* job. Let your repairs or alterations be made swiftly, dependably, economically, at one of American's five completely equipped ship yards *now!* Obey that impulse!



## *The* AMERICAN SHIP BUILDING CO.

| Cleveland | Lorain | Buffalo | South Chicago | Superior |
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| *American Ship Building Co.* | *American Ship Building Co.* | *Buffalo Dry Dock Company* | *Chicago Ship Building Co.* | *Superior Shipbuilding Co.* |

# *Give the boys a* BIG HAND!

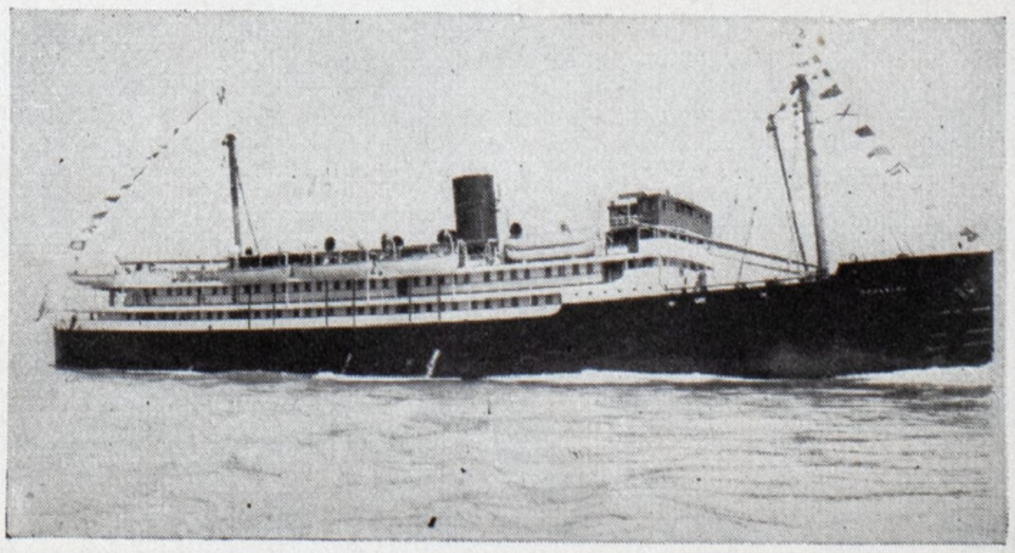
THE old method of scaling and painting vessels is slow and laborious . . . Deck hands are handicapped when they have only hammer and chisel, paint pot and brush.

The modern method is quicker, better, more economical. When the deck hand has Pneumatic tools at his disposal, supplied by air from a Westinghouse Air Compressor, he has enlarged facilities for doing the necessary work of keeping the ship shipshape.

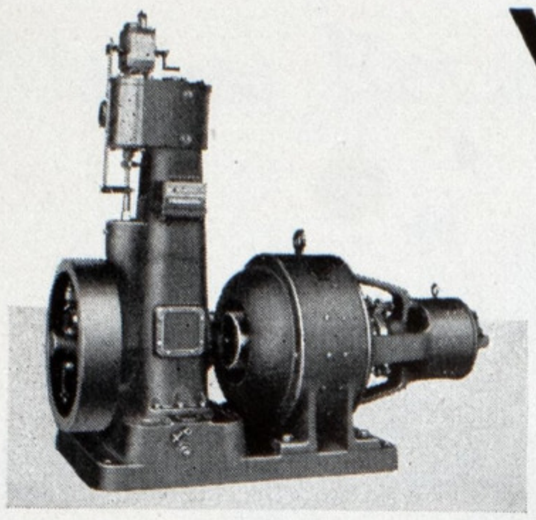
## WESTINGHOUSE TRACTION BRAKE CO.

Industrial Division Pittsburgh, Penna.

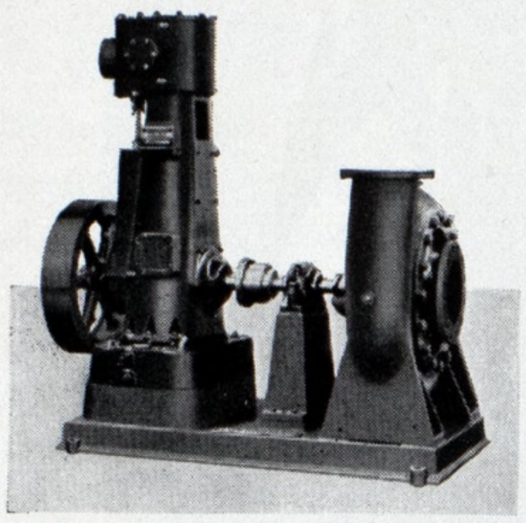
*The Westinghouse Steam Driven Air Compressor is compact, rugged, easily installed. Ideal for use on board ship, in the harbor, or in the ship yard. Made in four sizes, 35, 49, 66 and 150 cu. ft. displacement. We also make a complete line of motor driven compressors.*



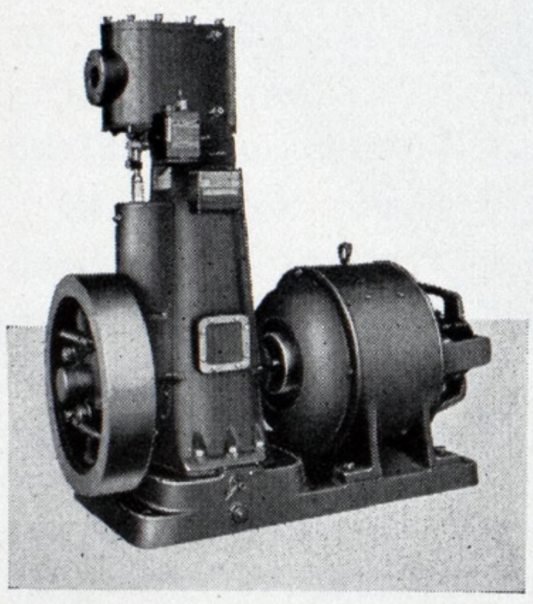
# Why Seatrains *New York* and *Havana* are Equipped with Troy-Engberg Engines for Compressor Drive . . . . . .



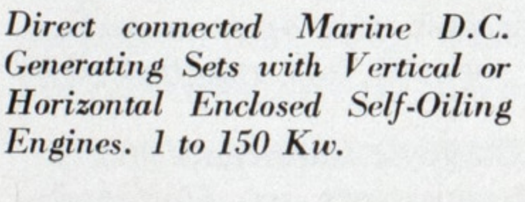
*Direct connected A.C. Generating Sets with Vertical or Horizontal Enclosed Self-Oiling Engines. 6.3 to 187 Kv-a.*



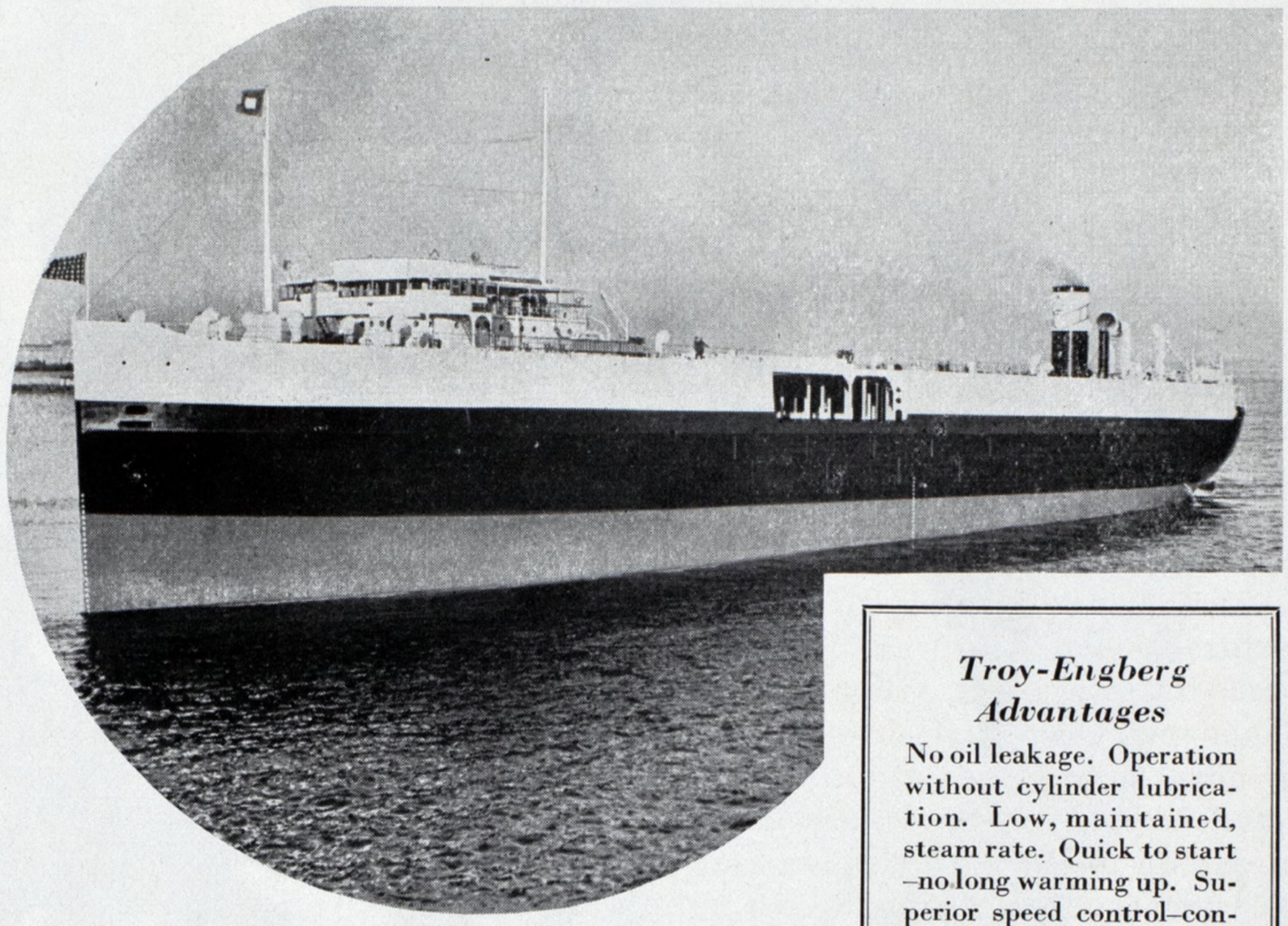
*Enclosed Self-Oiling Engines for driving Pumps, Compressors, Fans and Stokers. Vertical or Horizontal. 1 to 450 h.p.*



*Direct connected Marine D.C. Generating Sets with Vertical or Horizontal Enclosed Self-Oiling Engines. 1 to 150 Kw.*



*Generators for gasoline or Diesel Engine Drive. D.C.—⅓ to 60 Kw. A.C.—1 to 62.3 Kv-a.*



SEATRAINS *New York* and *Havana* in service between New York and Havana were built by the Sun Shipbuilding and Dry Dock Company for Seatrain Lines, Inc. They are 478 feet long. Each has a capacity of 100 loaded freight cars.

These vessels are equipped with Troy-Engberg Fully Enclosed Self-Oiling Engines for operating the compressors. The engines are piston valve type, 6 inch bore, 6 inch stroke, rated 25 horsepower at 410 RPM. They operate without cylinder lubrication with steam at 200 pounds pressure superheated 75°F, against 9 pounds back pressure.

Troy-Engberg equipment was specified because it was found to have the points of superiority listed above.

For interesting data on the construction and performance of Troy-Engberg Engines, Generators, and Generating Sets, drop a line to Troy Engine and Machine Co., 2253 Railroad Ave., Troy, Pennsylvania, or just put this ad and your business card in an envelope and mail.

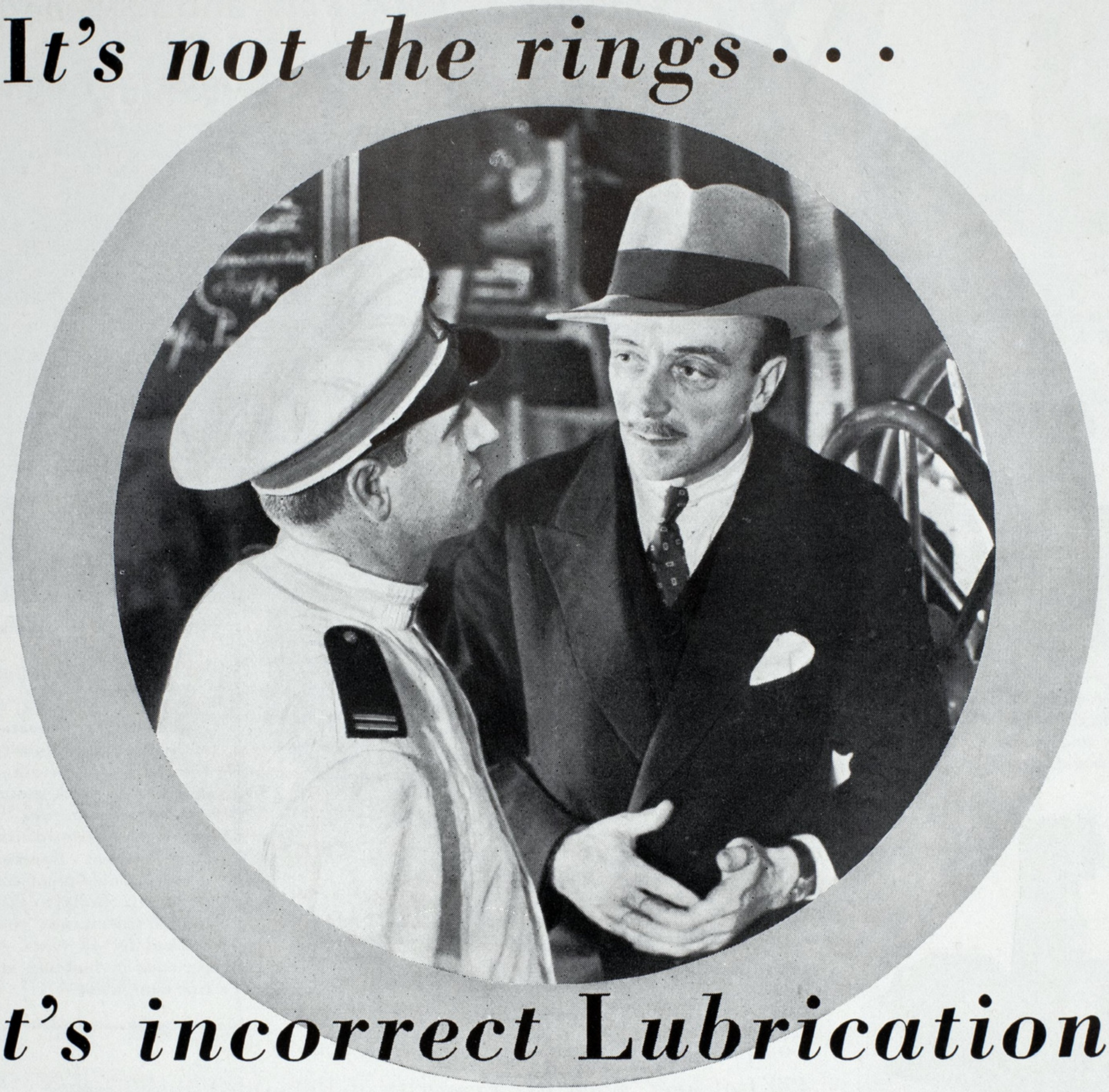
### *Troy-Engberg Advantages*

No oil leakage. Operation without cylinder lubrication. Low, maintained, steam rate. Quick to start—no long warming up. Superior speed control—constant voltage. Generous design—trouble-proof construction. Built to last—low maintenance cost. Backed by 45 years' experience in building marine equipment.

# TROY-ENGBERG

M-33-1

# "*It's not the rings . . .*



# *it's incorrect Lubrication*"

The chief engineer frowned. "Looks like that last set of high-pressure rings will have to come out, too." He shook his head. "Replacing rings every trip costs money. I'm hearing plenty about it, too. This makes the eighth set of rings this year."

The Vacuum engineer spoke up: "Chief, you can buy piston-rings until doomsday—but it won't help. *It's not the rings. It's incorrect lubrication.* Swabbing piston rods and valve stems doesn't do the job. We can put a stop to this if you'll follow the suggestions I've made."

The chief engineer stood up. "All right," he said. "I'm game. But if I have any trouble with oil in the boilers, you better not come here again."

Shortly after, the methods of applying oil were changed and the correct grade of Gargoyle Marine Oil was introduced. On the next trip oil consumption was lower. Improved operation was apparent. It has been two years now since Gargoyle Marine Oil was first used *and no piston rings have been renewed—no oil has reached the boilers.**

It is more than likely that Gargoyle Lubricants and engineering service can help cut your costs, too. Our representative in any leading port will be glad to explain how we have lowered costs for vessels driven by machinery similar to your own.

In the meantime send for one of these helpful books—"Steamships with Reciprocating Engines" or "Marine Lubrication—Motorships". Address Vacuum Oil Company, Inc., Marine Sales Dept., D-3, 26 Broadway, New York.

*This vessel is driven by a triple-expansion engine working on 200 lbs. per square inch initial steam pressure without super-heat.

**VACUUM OIL COMPANY, INC.**

**A SOCONY-VACUUM COMPANY**

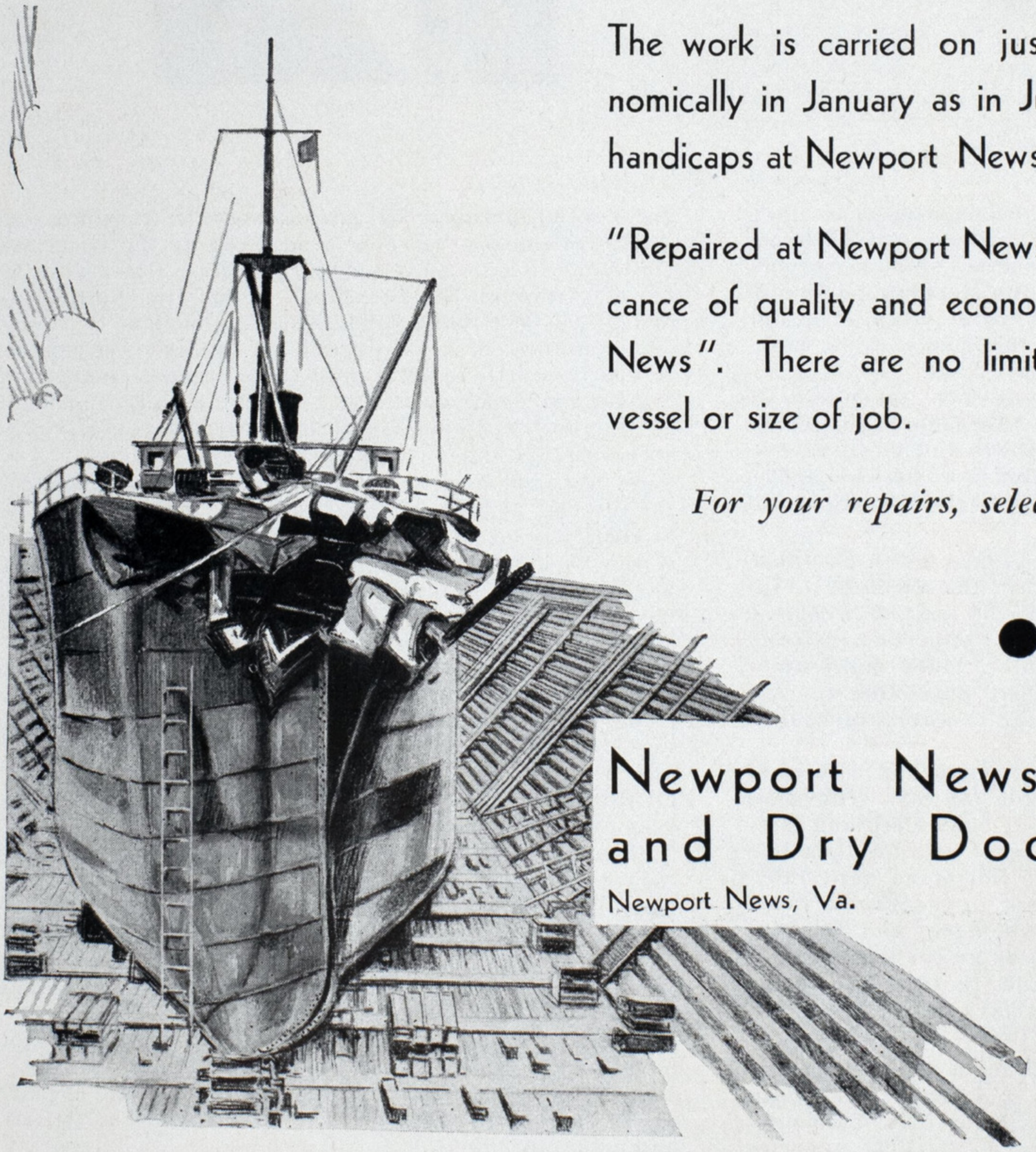
GARGOYLE

**Lubricating Oils**

# NEWPORT NEWS

## REPAIR FACILITIES

### SAVE TIME AND MONEY



THREE large graving docks . . . steel, iron and brass foundries . . . large forge and machine shops, completely equipped with modern tools . . . an efficient organization, trained in the latest methods for economical and rapid completion of ship work.

The work is carried on just as efficiently and economically in January as in June—there are no winter handicaps at Newport News.

"Repaired at Newport News" carries the same significance of quality and economy as "Built at Newport News". There are no limitations as to the type of vessel or size of job.

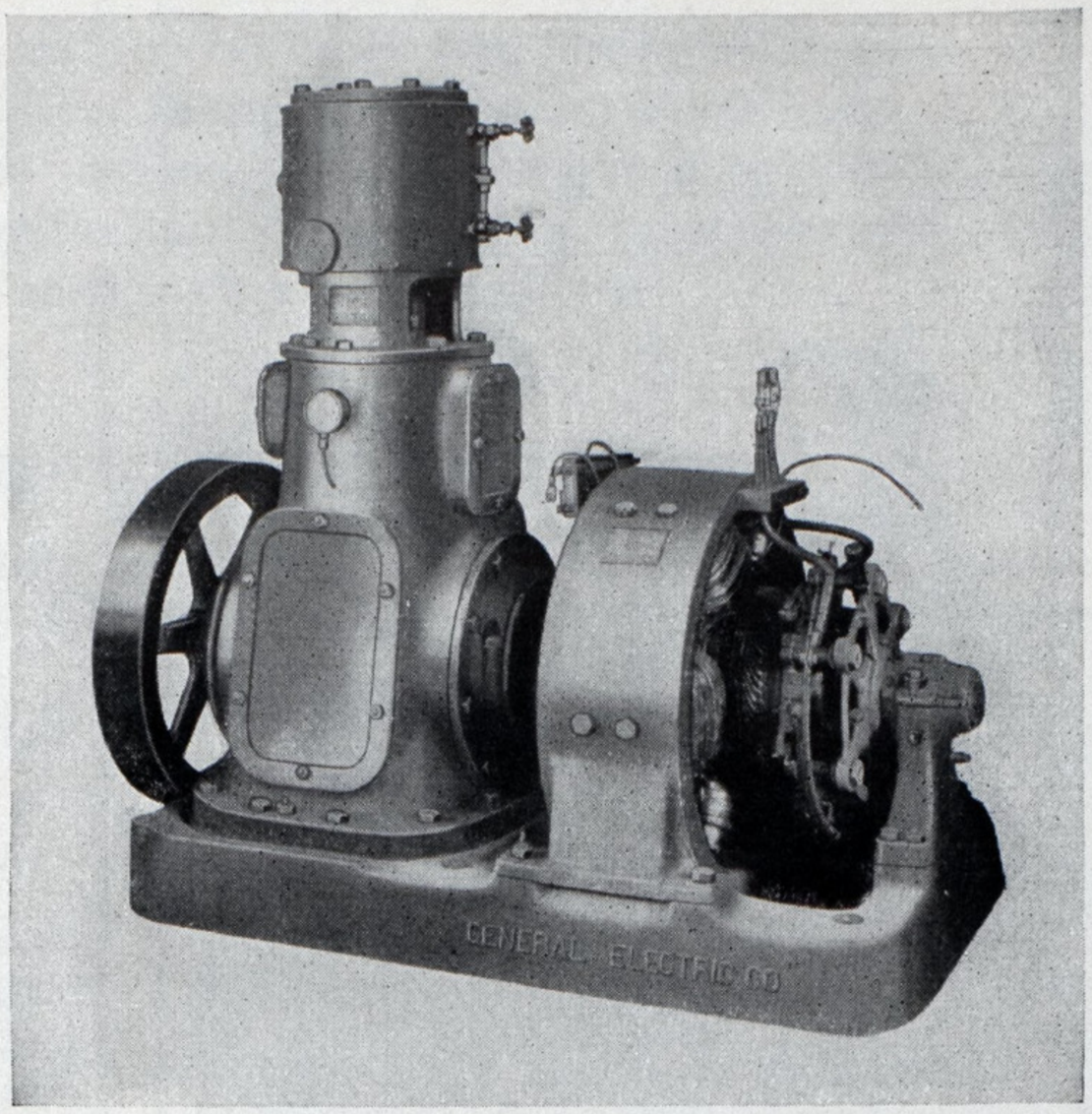
*For your repairs, select those who build.*

●

Newport News Shipbuilding and Dry Dock Company

Newport News, Va. 90 Broad St., New York City

# ELECTRIC EQUIPMENT ENGINEERED FOR MARINE SERVICE




# This Trim Generating Set will meet many of your needs

**If you require small blocks of power—for lighting, for auxiliaries, for radio—this G-E marine set will supply them reliably and efficiently.**

**It consists of a highly efficient steam engine, which takes steam at any standard pressure and temperature and drives a G-E generator that delivers direct-current power at 110 to 125 volts.**

**The ratings are from 5 to 60 kw.—for either two-wire or three-wire service. Sizes up to 30 kw. are carried in stock and can be shipped promptly.**

**Check the features of this unit and see if they meet your ideas of what a marine steam-engine generator set should have.**

**For complete information about these sets, or about any electric equipment, address the nearest G-E office, or General Electric, Schenectady, New York.**

## FEATURES

### Forced-oil Lubrication

The main bearings, crank pin, wrist pin, governor bearing, eccentric, and guides on the engine are lubricated by oil under pressure. After passing through the bearings, the oil returns to the reservoir to be used again. This feature gives quiet operation, minimizes attention, lessens wear, and reduces the quantity of oil required.

### Raised Cylinder Improves Lubrication

The piston rod passes through a stuffing box in the top of the enclosing column. The cylinder is raised high enough so that no part of the piston rod entering the column stuffing box also enters the cylinder stuffing box. This prevents oil from creeping along the rod to the steam spaces, and keeps condensate from getting into the column and emulsifying the oil.

### Governor Is Totally Enclosed

The automatic governor, on 30-kw. and smaller sets, is totally enclosed by the column. The valve eccentric is in direct alignment with the piston valve, and a simple, direct valve motion is used without any offsets or rocker-arm intermediary.

### Highest Possible Efficiency

Short, direct passages between the cylinder and the valve-chamber ports, accurate fitting of all valves, crosshead guides, and bearings — these are some features of this engine which make for the highest possible efficiency.

### Generator

The generator, of rolled-steel frame construction, represents the latest development and the most advanced design yet offered in this class of apparatus.

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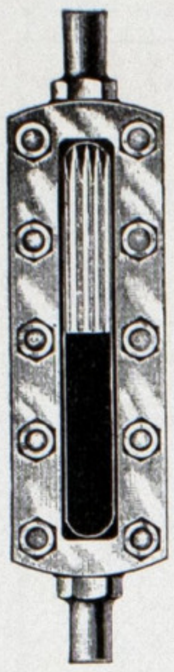

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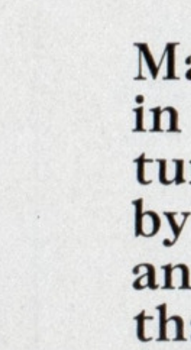

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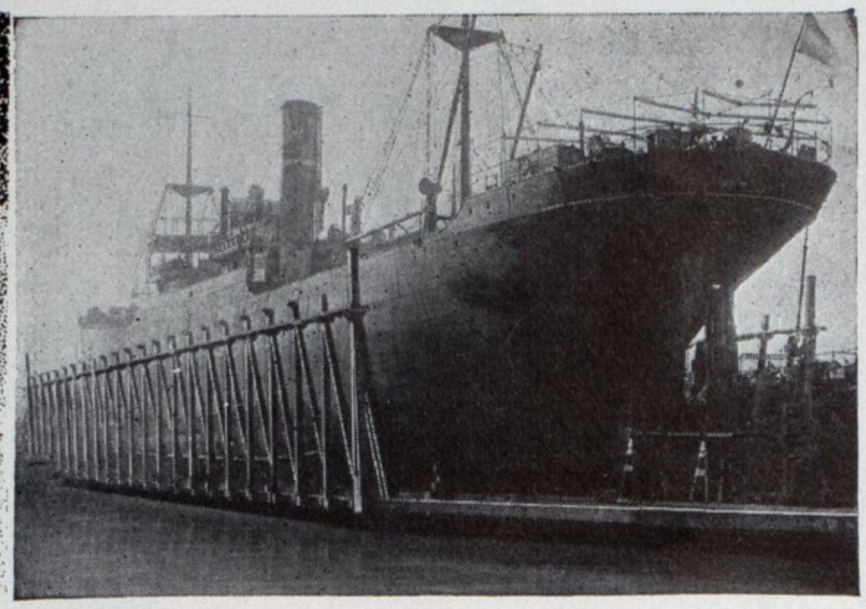

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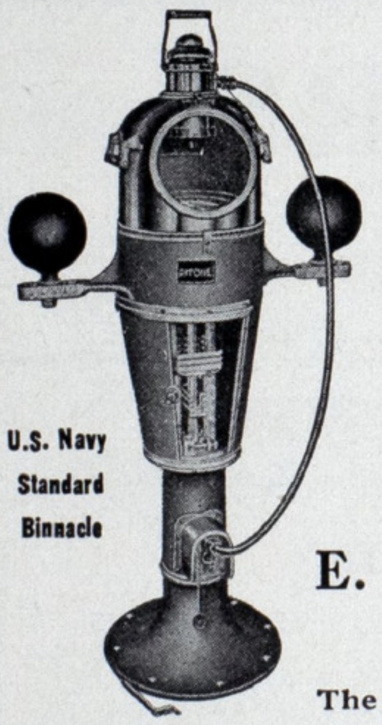

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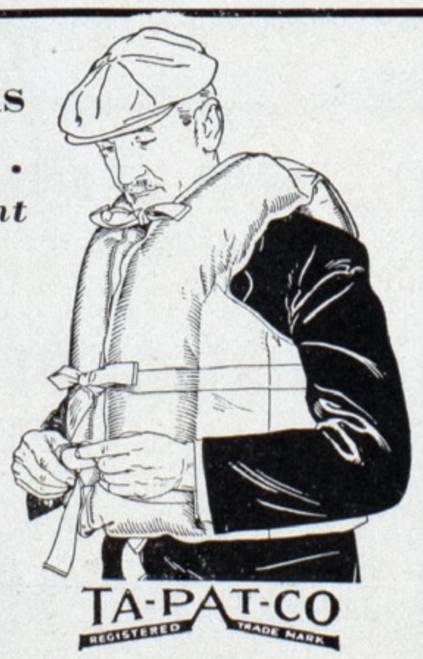


The American Pad & Textile Co.

Greenfield, Ohio


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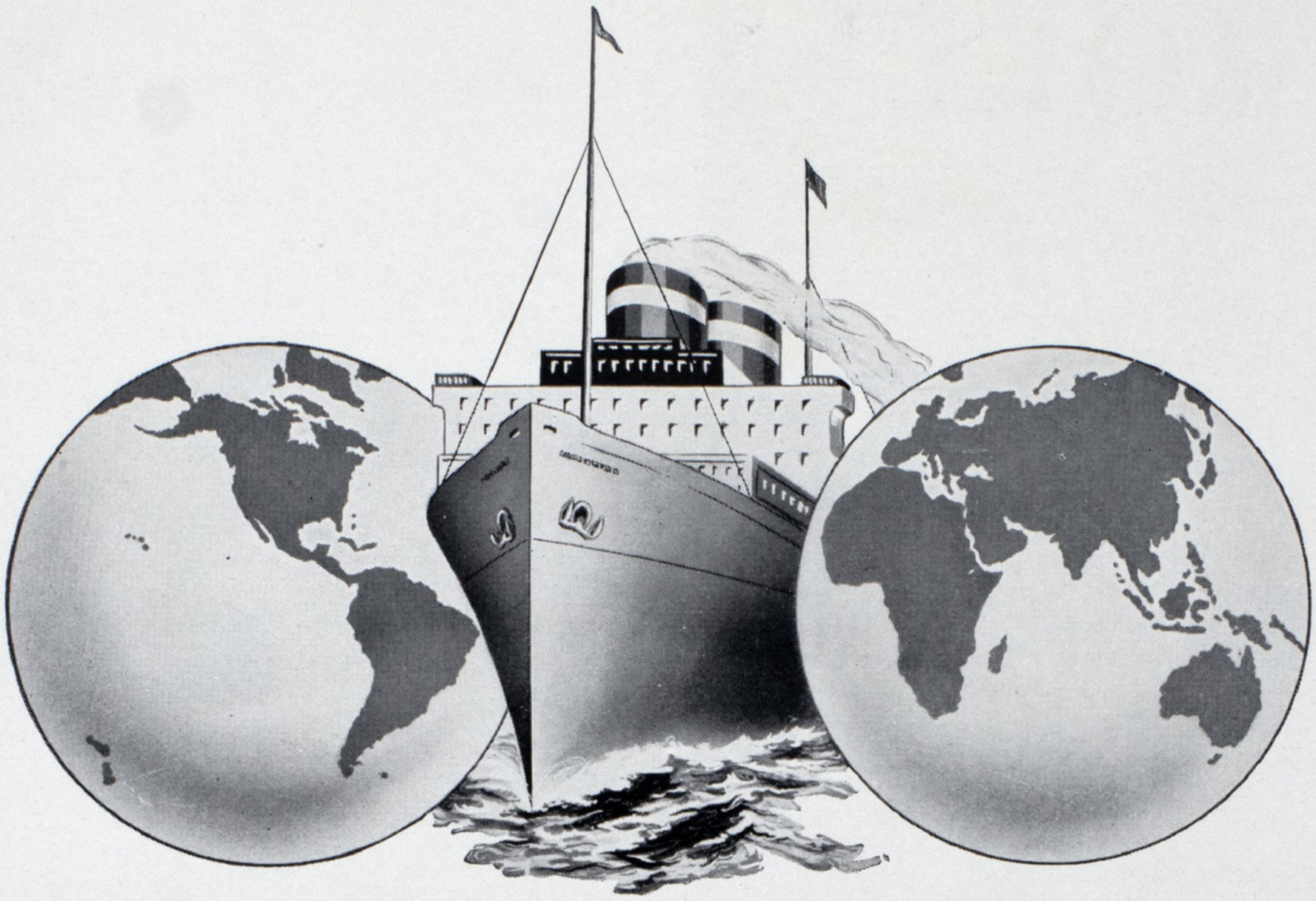

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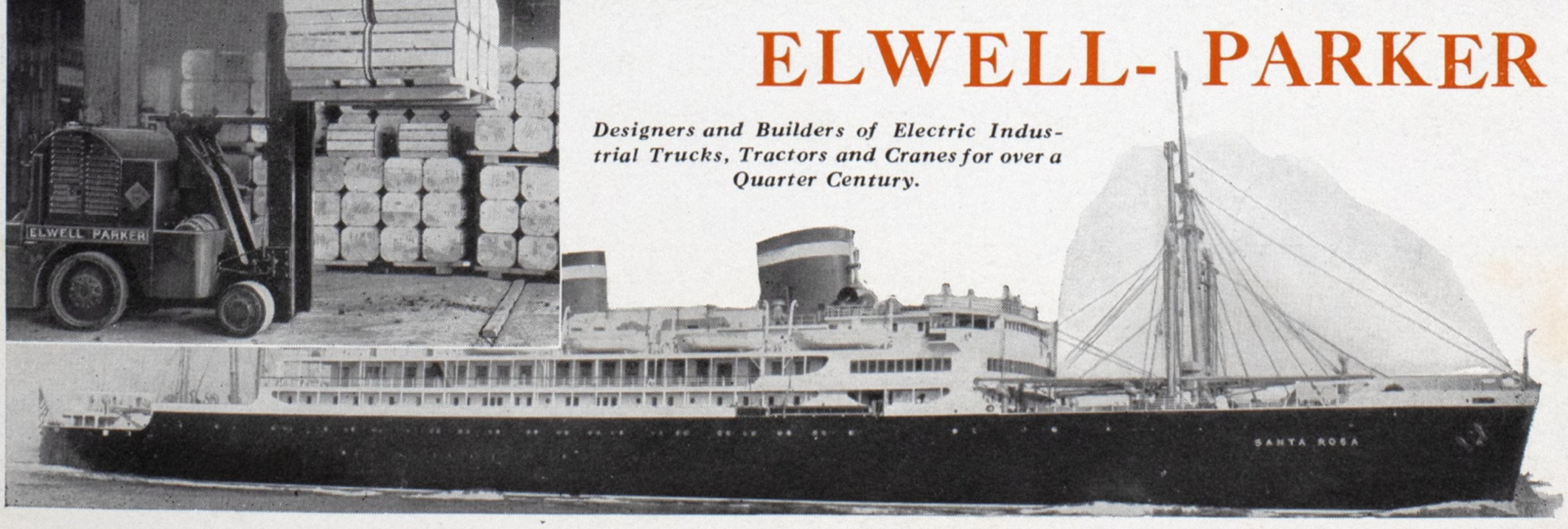
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